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A REPORT

OF THE

Gynecological Service of Mount Sinai Hospital, New York, for the Twelve Years from January 1st, 1883, to December 31st, 1894

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BY

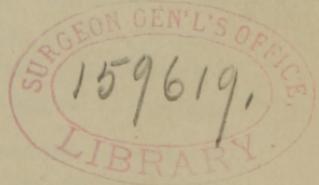
PAUL F. MUNDÉ, M.D.

GYNECOLOGIST TO THE HOSPITAL

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WITH FORTY-EIGHT ILLUSTRATIONS

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NEW YORK
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1895

A REPORT OF THE
GYNECOLOGICAL SERVICE OF MOUNT SINAI HOSPITAL,
NEW YORK,

FROM JANUARY 1ST, 1883, TO DECEMBER 31ST, 1894.¹

PRIOR to the year 1877 there was no separate gynecological department in Mount Sinai Hospital. In this respect this hospital did not differ from the majority of others in this country at that time. Cases coming under this category were assigned to the medical and surgical female wards respectively, according to the estimated nature of the case. Gynecological operations were rarely performed, especially if of a serious or capital nature. With the establishment in 1875 of the dispensary connected with the hospital and of a separate gynecological department in that institution, cases of this nature were seen more frequently, and if requiring hospital treatment were of course referred to the hospital wards. In time it became apparent that these cases could not receive the proper care and attention in the general surgical ward, and in 1877, consequently, a special gynecological service was created and Dr. Emil Noeggerath placed in charge,

¹ I am greatly indebted for the collation of figures and the collection of statistics up to 1892 to Dr. L. J. Ladinski, of New York, formerly house surgeon to Mount Sinai Hospital, and for the collation of the cases of the last two years to Dr. Thomas D. Tuttle, house surgeon during the year 1894, now of Fulton, Missouri.

with the title of gynecologist to the hospital. On his resignation in the spring of 1882 I was promoted from the position of gynecologist to the dispensary, which I had held since the inception of that institution, to succeed Dr. Noeggerath as gynecologist to the hospital.

The gynecological service had been gradually increased, until, on my taking charge of it, it had attained its present dimensions and comprised twenty free beds in one large ward. This ward is situated on the northern side of the hospital, occupying the whole first floor, and is known in the hospital books as the "First Female Ward." There are ten beds on a side. The ward measures seventy-five feet in length, twenty-four feet in breadth, and fifteen feet in height. Each patient, therefore, has 1,350 cubic feet of air allotted to her. The beds are not surrounded by curtains, in order to allow free ventilation. There are eight large windows in the ward, besides seven top ventilators. At each end of the ward are large folding doors, which are usually kept open. The ventilation of the ward can therefore be said to be in every respect first-class, and such a thing as impure air or overcrowding is entirely out of the question.

At the rear of the ward is a small room used for the purpose of examination of patients and for minor operations such as can be performed without special preparation—*e.g.*, dilatation and curetting of the uterus, opening of small abscesses, etc. Bath rooms, lavatories, and closets occupy the remainder of this extension. In the front of the ward is a small private room designed for patients in moderate circumstances who are able to pay a trifling weekly sum to the hospital, besides another room with two windows which contains two beds and is specially reserved for laparotomy cases during the first week after operation, who are attended by special trained nurses furnished by the hospital free of charge.

So far as the general wards of a hospital permit, the gynecological patients of Mount Sinai Hospital enjoy all the privileges which can reasonably be expected by patients from the lower classes who pay nothing for either board or medical attendance.

The medical care of the ward is in charge of the surgical house staff of the hospital, which comprises one house surgeon, one senior and one junior assistant, one surgical dresser, and one provisional, the latter being assigned to the gynecological and

ophthalmological services specially, his duty being to attend either of the surgeons of these departments during their visits when the senior members of the surgical staff are otherwise engaged. There are also four nurses constantly in the ward, who are detailed by the training school connected with the hospital. It is almost needless to say that the ward is never without sufficient supervision by these nurses either by day or by night.

At the head of each bed is a card bearing the date of admission, name, age, etc., of the patient, also the diagnosis after it has been made by me, and, if an operation has been performed, the date and nature of the operation. Besides, the usual temperature, pulse, and respiration chart hangs above each bed, and the customary notes are made at regular hours by the head nurse. Regular rounds are made by the house staff twice daily, and I make it a rule to visit the ward every day, with rare exceptions, and to examine every patient, no matter how trivial the complaint, at least once a week. Serious cases, of course, are looked after by me as often as they may require.

Visitors are allowed to see the patients between 2 and 4 o'clock every Wednesday, Saturday, and Sunday—a custom which undoubtedly is a great comfort to many patients, but at times is productive of harm, particularly in nervous, excitable, or very sick patients. Capital cases are not permitted to see visitors unless by my special permission.

The number of patients admitted to the gynecological service has gradually increased from year to year, being 181 in 1883 and 505 in 1894. A reference to the table given later on will show the relative increase of cases in each year. The number of operations has increased in proportion.

The gynecological service has always been and still is a continuous one, and is therefore a considerable tax upon my time and strength, which I have been able to bear in consequence of being allowed to take a vacation every summer of from two to three months. During this time in former years the service was supplied by one or the other of the visiting surgeons to the hospital, notably Drs. Scharlau, Wyeth, Fluhrer, and Gerster, who have very kindly substituted for me during my absence. In order to furnish an official substitute during my vacation or other temporary absences, two years ago the directors appointed an assistant gynecologist in the person of Dr. Joseph Brettauer,

who since then has had charge of the service during the summer months.

For the accommodation of patients able to pay there are twenty-five private rooms on the second floor. These rooms are at the disposal of all the members of the visiting staff, medical, surgical, gynecological, and ophthalmological and aural. The rules of the hospital permit the visiting physician or surgeon to charge patients occupying such private rooms for his services, provided the patient has been sent to the hospital by him as his private patient or the patient desires the exclusive attendance of one particular visiting physician.

In the following table will be found a record of the various diseases treated in my service during these twelve years, of the operations performed, and of the results obtained. It was not possible for me to give the figures from May, 1882, when I took charge of the service, to January, 1883, because the books at that time were so carelessly kept as to be useless for a report of this kind.

TABLE I.
LIST OF DISEASES AND THEIR RESULTS.

Disease.	Number.	Cured.	Improved.	Unimproved.	Died.	Remarks.
VULVA :						
Abscess (vulvo-vaginal)	11	10	1	During pregnancy.
Elephantiasis	1	1	..	..	..
Epithelioma	2	..	2	..	..
Fistula (vulvo-vaginal)	1	1	..	..	..
Polypus (left labium)	1	1	..	..	..
	16					
PERINEUM :						
Laceration	184	142	41	..	1	Death from septicemia.
Phlegmon	1	1	..	..	..
	185					
RECTUM :						
Carcinoma	3	..	2	..	1	Incidental.
Condylomata	3	3	..	..	..
Fissure in ano	3	3	..	..	..
Fistula in ano	3	3	..	..	..
Fistula (recto-vaginal)	5	3	2	..	..
Hemorrhoids	8	7	..	1	..	
Ischio-rectal abscess	2	2	..	..	..
Polypus	1	1	..	..	..
Proctitis	1	1	..	..	..
Stricture	3	..	3	..	..
Ulcer	1	1	Syphilitic.
	33					

TABLE I.—Continued.

Remarks.	Number.	Cured.	Improved.	Un improved.	Died.	Remarks.
URETHRA AND BLADDER :						
Urethral caruncle.....	11	11	..	..	..
Urethral prolapse.....	1	1	..	..	..
Urethral stricture.....	2	1	1	..	..
Urethral fibroid.....	1	1	..	..	..
Urethrocele.....	1	1	..	..	..
Epithelium of urethra.....	1	1	..	..	..
Epithelium of bladder.....	2	..	..	1	1	
Cystitis.....	28	14	11	2	1	
Vesico-vaginal fistula.....	11	9	1	1	..	
Vesico-uterine fistula.....	2	1	..	..	1	Peritonitis from rupture of ovarian abscess.
	60					
VAGINA :						
Atresia.....	8	7	1	..	..
Cyst.....	1	1	..	..	..
Cystocele.....	37	15	21	1	..	
Double.....	1	1	..	..	..
Epithelioma.....	2	..	2	..	..
Occlusion (imperforate hymen).....	1	1	..	..	..
Rectocele.....	65	54	7	4	..	
Rupture.....	1	1	..	..	..	Parturient.
Stenosis.....	7	7	..	..	..
Ulcer (due to pessary).....	5	4	1	..	..
Vaginitis (venereal).....	20	14	6	..	..
Vaginitis (senile).....	1	1	..	..	..
	149					
UTERUS :						
CERVIX UTERI :						
Carcinoma.....	4	3	46	..	5	
Hypertrophy.....	4	4	..	..	..
Laceration.....	518	316	169	33	..	
Polypus.....	8	8	..	..	..
	584					
CORPUS UTERI :						
Abortion.....	147	143	..	..	4	Deaths from septicemia.
Anteflexion.....	52	32	20	..	..	Sterility.
Atrophy (senile).....	1	..	..	1	..	
Endometritis (including cervical).....	297	197	94	6	..	
Fibroid tumor.....	130	56	60	7	7	Cured by galvano-puncture, abdominal hysterectomy, or vaginal enucleation.
Foreign body.....	1	1	..	..	..
Pregnancy and labor (ordinary).....	97	95	..	..	2	
<i>a.</i> Extrauterine.....	16	14	..	..	2	
<i>b.</i> Double uterus.....	1	1	..	..	..
<i>c.</i> Hydatids.....	4	4	..	..	..
<i>d.</i> Hydramnion.....	1	1	..	..	..
<i>e.</i> Placenta previa.....	2	1	..	..	1	
Hyperplasia.....	4	2	2	..	..	Uncomplicated.
Infantile.....	5	4	1	..	..	Amenorrhea and sterility
Inversion.....	1	1	..	..	..	Complete amputation and oophorectomy.
Lateral flexion.....	1	..	1	..	..
Metritis, puerperal.....	5	3	1	1	..	
Prolapse.....	40	15	22	2	1	Death after ventral fixation.
Retroversion and retroflexion.....	161	85	66	10	..	
Sarcoma (?) and carcinoma (4).....	6	..	3	..	3	
Subinvolution.....	21	9	12	..	..
Stenosis of uterine canal (ext. and inter.os)	90	67	22	1	..	
	1083					
TUBES :						
Salpingitis, chronic (and oöphoritis).....	312	52	237	22	1	52 cured by removal.
Hydrosalpinx.....	4	4	..	..	..
Heatosalpinx (probably not ectopic).....	2	2	..	..	..
Pyosalpinx.....	40	21	11	3	5	

TABLE I.—Continued.

Disease.	Number.	Cured.	Improved.	Unimproved.	Died.	Remarks.
OVARIES:						
Abscess.....	16	13	..	..	1	
Cystic tumor.....	128	115	..	2	11	
Fibroid.....	2	2	..	..	..
Carcinoma.....	7	2	2	..	3	
Hematoma.....	3	3	..	..	..
Papiloma.....	3	1	..	..	2	
Prolapse.....	20	20	..	..	..
Edema.....	1	1	..	..	..
Oöphoritis (chronic) with salpingitis.....	339	60	275	4	..	19 cured by removal.
	523					
PELVIC PERITONEUM AND CELLULAR TISSUE:						
Abscess.....	103	87	6	1	9	
Carcinoma.....	1	..	..	1	..	
Cyst of broad ligament.....	10	10	..	..	..
Cellulitis.....	79	67	8	4	..	
Hematocele (intraperitoneal) and Hematoma (extraperitoneal) }	27	21	1	..	5	Deaths from septicemia.
Peritonitis.....	602	304	281	10	7	
Sarcoma.....	4	..	..	2	2	
	826					
ABDOMEN:						
Abscess of wall of.....	1	1	..	..	..
General carcinosis of abdominal organs.....	9	..	..	3	6	
Carcinoma of peritoneum.....	1	..	..	1	..	
Carcinoma of colon.....	1	..	..	..	1	
Sarcoma of wall of.....	2	2	..	..	..
Peritonitis, general.....	24	12	..	..	12	Secondary and septic.
Peritonitis, tubercular.....	4	..	3	..	1	
Sinus of wall of.....	10	3	7	..	..
Hernia of abdominal wall (ventral hernia).....	6	3	3	..	..	Following abdominal section or pregnancy.
	58					
GENERAL DISEASES:						
Amenorrhœa.....	31	30	..	1	..	
Abscess of kidney.....	1	1	..	..	..
Abscess of psoas muscle.....	1	1	..	..	..
Carcinoma mammae.....	5	5	..	..	..
Dermoid tumor of nates.....	1	1	..	..	..
Hysteria.....	22	17	4	1	..	
Floating kidney.....	8	1	7	..	..
Intestinal obstruction.....	3	1	..	..	2	
Phlegmasia dolens.....	2	2	..	..	..
Phlegmon of pubes.....	1	1	..	..	..
Perityphlitis.....	3	1	..	..	2	
Pyemia.....	1	..	..	..	1	
Caries of coccyx.....	1	1	..	..	..
Cystic tumor of mamma.....	3	3	..	..	..
Abscess of mamma.....	1	1	..	..	..
Nymphomania.....	1	..	..	1	..	Clitoridect my.
	85					
Total number of diseases treated.....	3960	2211	1456	191	102	

Total number of patients treated.....3898
 Admitted and found not to be gynecological, therefore not included in
 above list..... 313

Total number of patients admitted to gynecological service from January
 1st, 1883, to January 1st, 1895.4211
 Some patients therefore were afflicted with more than one separate disease.

REMARKS ON THE DISEASES TREATED.

DISEASES OF THE VULVA. *Vulvo-vaginal Abscess*.—Of this very common disease it will be seen that only eleven cases were observed, the reason for this relative infrequency being probably that such cases are usually the result of gonorrhœal infection and that cases of this character were but rarely admitted to

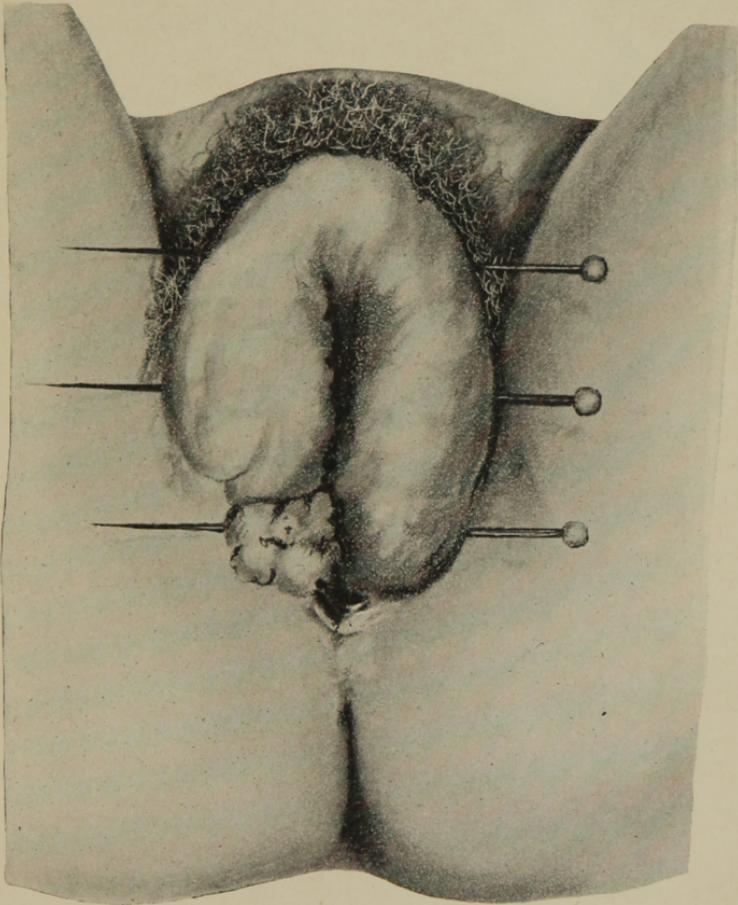


FIG. 1.—Elephantiasis vulvæ before operation.

the hospital, venereal diseases being more frequently seen in the large general hospitals of this city. The treatment consisted in a free incision, thorough antiseptic irrigation, and packing with iodoform gauze, under which ten of the cases were discharged cured, one leaving the hospital at her own request before complete cure.

Elephantiasis of the Vulva was observed once in a mulatto woman who was four months pregnant. The tumor encroached upon the vaginal orifice so much (the clitoris and labia majora and minora being all involved) that delivery at term would have been impossible. Hence the mass was removed with the knife, being first constricted with an elastic ligature tied under three long pins passed beneath the tumor. Bleeding vessels

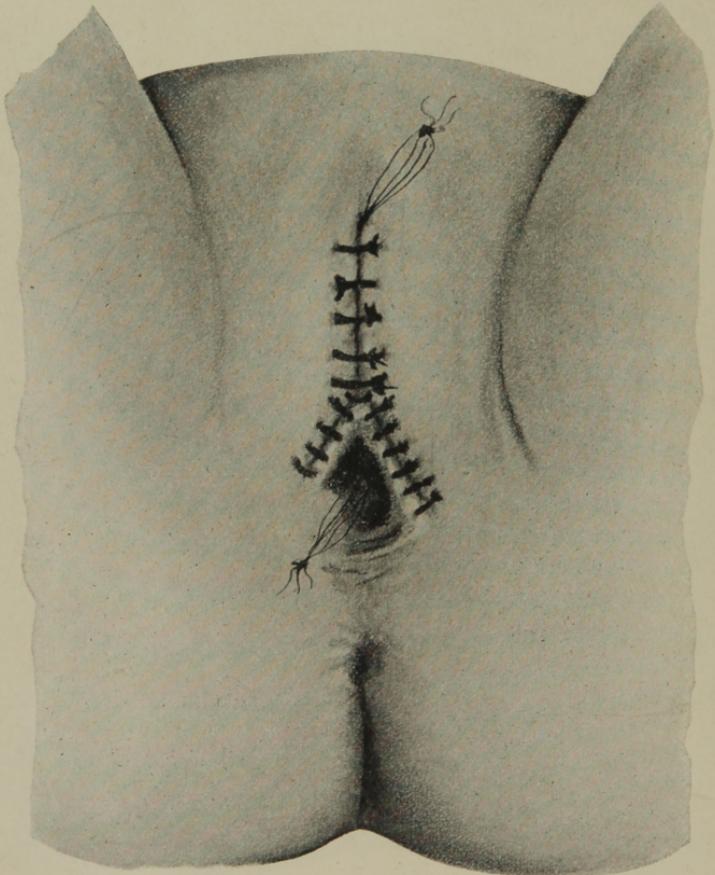


FIG. 2.—Elephantiasis vulvæ after operation.

were thus secured separately and the wound closed by sutures. Pregnancy was not disturbed. (Figs. 1 and 2.)

Epithelioma.—Two cases were observed and apparently cured by complete extirpation of the disease with the knife. Whether the disease returned later I cannot say. The disease was limited entirely to the vulva and not secondary to its occurrence in a neighboring part. (Fig. 3.)

Polypus.—One very rare case of fibrous polypus hanging from the left labium was observed, and was of course easily cured by the removal of the tumor.

A Curious Injury of the Hymen was seen in three women, but, not being of pathological significance, is not recorded as a separate disease. It consisted in a tearing away of the whole ring of the hymen from its attachment during coition, leaving the membrane hanging only by a slender strip. The central open-

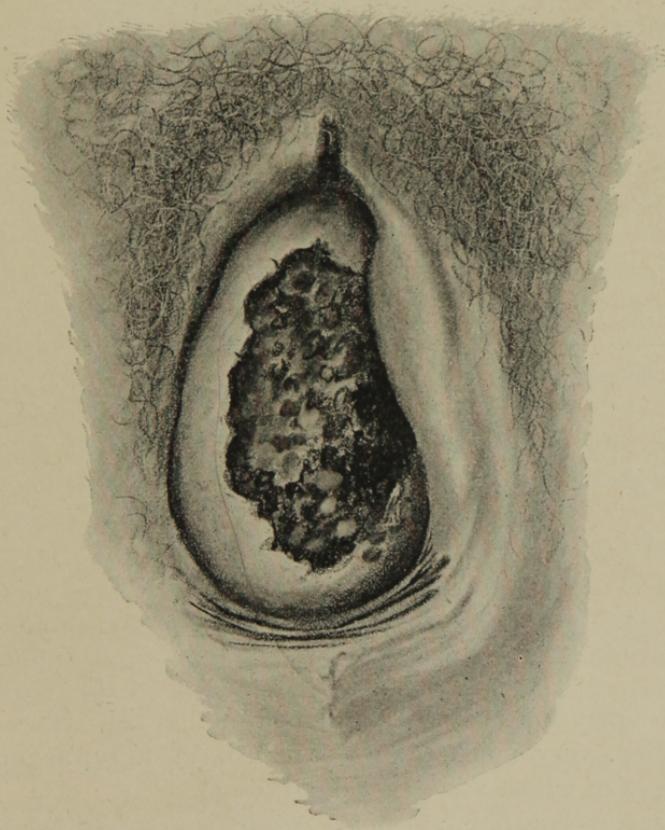


FIG. 3.--Epithelioma vulvæ.

ing of the hymen was uninjured, and the membrane hung loosely over the vaginal orifice. Two of the women had had children. Coition was of course performed under the loose hymen and caused no pain. Only if by chance the glans penis should happen to catch in the small opening of the hymen would pain and bleeding be produced by traction on the slender attachments during the efforts of intromission. This occurred

in a case reported by a Swiss physician, who first called my attention to this peculiar accident. (Fig. 4.)

PERINEUM.—Of one hundred and eighty-four cases of *laceration* of this body which were admitted, one hundred and forty-one were cured, of course by operation; forty-one were improved only, the operation not having proved an entire success; but all the cases were operated upon. Those which were too slight to

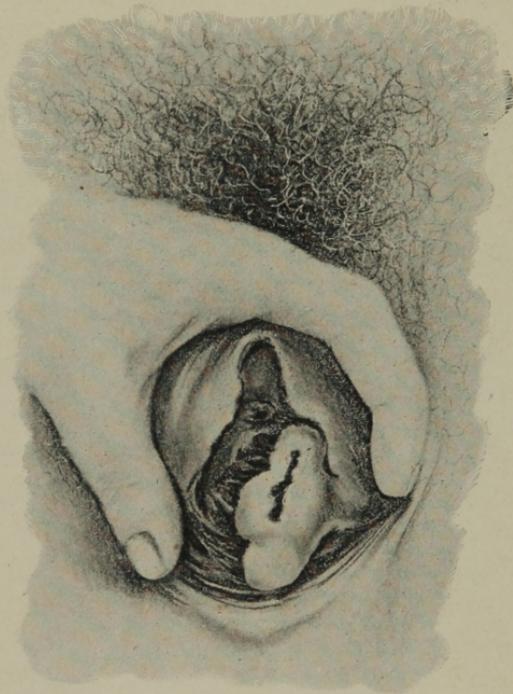


FIG. 4.—Curious injury of hymen.

require operation are not mentioned in this list. Two of the cases died, very much to my regret, both of septic infection the origin of which was never determined.

RECTUM.—This organ is not necessarily a part of the gynecological area, but its diseases are so commonly associated with pathological conditions of the sexual organs of the female that they were not infrequently met with in my service and there treated instead of being referred to the general surgical department.

Catarrh of the rectum is not a very uncommon affection in women and very often simulates utero-ovarian diseases. I find it very frequently associated with backward displacement of the

uterus and as a complication of hemorrhoids and fistula or fissure in ano. It is, therefore, well to remember that the rectum may be the seat of the symptoms of which the patient complains, and that anything like mucous or bloody discharges from that canal, or of burning, throbbing, bearing-down sensation in the region of the coccyx, or of painful defecation may with great probability indicate a disease of the bowel instead of the sexual organs. Preliminary to a successful treatment of a diseased condition of the rectum, dilatation of the sphincter ani is absolutely indispensable. In catarrh of the rectum applications of nitrate of silver solution, one drachm to the ounce, repeated every two or three days until improvement is manifest, have done me excellent service. The tenesmus usually following these applications must be relieved by hypodermics of morphine and by pouring melted vaseline into the bowel immediately after the cauterization. Warm carron oil (equal parts of linseed oil and lime water) used as an enema, two to four ounces, night and morning, to be retained, is an excellent remedy to promote healing of the inflamed rectum after cauterization.

Ulcers of the rectum are best treated by applications of pure nitric acid made through a cylindrical speculum.

The other affections of the rectum mentioned in the report differ in no wise from the same conditions in the male as regards either symptoms or treatment.

The interior of the rectum can be easily and fully exposed as far up as the level of the sacral promontory through an ordinary vaginal cylindrical speculum, or by elevating the posterior perineum and depressing the anterior perineum with a Sims speculum in each hand, the patient occupying the genu-pectoral position.

URETHRA AND BLADDER.—It is a curious fact that in the eyes of some general surgeons the female bladder should still be considered as not belonging to the sexual system of woman, but should be looked upon as an organ the diseases of which come under the head of general surgery. This fact may account for the comparatively small number of diseases of the bladder which come into my service. Until recently the admitting physician of the hospital has sent a very large number of diseases of the bladder in the female to the general surgical service, where they have been kept, treated, and operated upon, even to the point of vaginal cystotomy for chronic cystitis. And still all gynec-

cological text books contain separate chapters devoted to the diseases of the female bladder, Skene even giving as many as three hundred pages of his book to this subject. It has required a vigorous protest on my part to at last overcome this custom.

Strange to say, that very common disease, *urethral caruncle*, I find to have occurred only in eleven cases. I can hardly imagine this to be true, since my recollection certainly impresses me that I operated on many more instances of that affection, but probably it was only secondary to some other disease and has therefore not been specially noted.

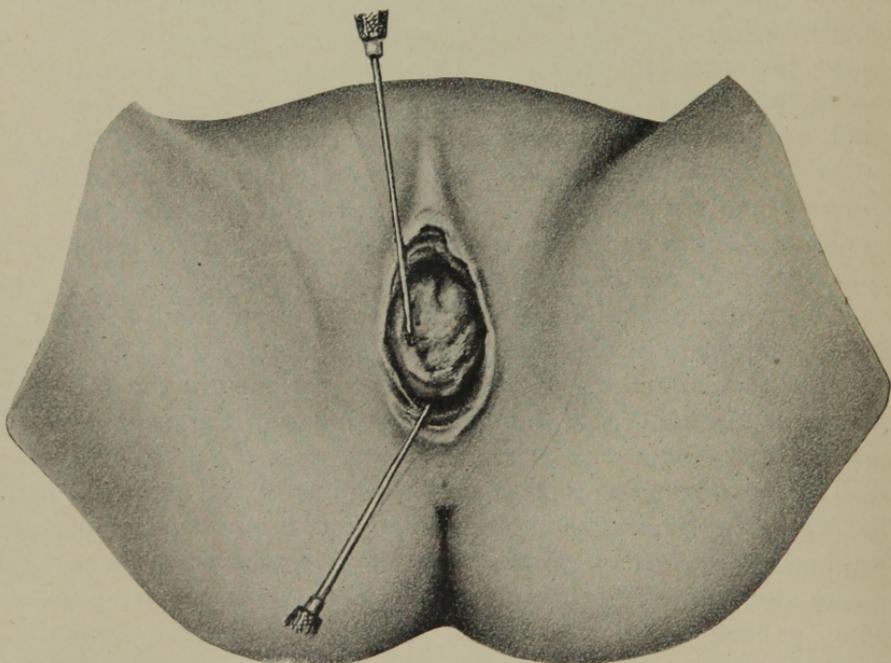


FIG. 5.—Prolapse of urethra in girl of 9½ years. The upper sound is in the urethra, the lower in the vagina.

Prolapse of the Urethra occurred once, in a girl 9 years of age. It was cured by excision, the raw edges being united by catgut sutures. (Fig. 5.)

Stricture of the Urethra I find to have occurred twice. In my experience this is a rare disease in the female, quite contrary to its occurrence in the male. It is usually produced by traumatic influences, mostly during childbirth, and cured by dilatation.

Urethrocele—that is, a sacculation of the lower wall of the

urethra into the vagina—is mentioned once. This also is a rare disease in my experience, although I believe others, like Thomas Addis Emmet, report seeing it quite frequently. It must not be confounded with cystocele, which consists in a prolapse of the anterior vaginal wall and bladder without involving the urethra. The cure of urethrocele is entirely surgical and will be discussed further on.

Chronic Cystitis was met with twenty-eight times, and I know these figures to mean the condition independent of other pelvic inflammations. I am sorry to say that only fourteen cases are reported as cured and that one even died. We all know how intractable old cases of cystitis are in both sexes; nothing short of an artificial vesico-vaginal fistula will succeed in even relieving, not to speak of curing, an old catarrh of the bladder in which the mucous membrane has become so diseased by ulceration, cicatrization, and hypertrophy as to be practically no longer a mucous membrane. Often it is encrusted with calcareous deposits, which have to be scraped out bodily through the dilated urethra or an artificial vaginal fistula. The want of success in curing these cases, therefore, must not be a matter of surprise, since, as a rule, only inveterate forms of the disease come to the hospital.

Vesico-uterine and Vesico-vaginal Fistulae.—Of the former two cases were observed. One, which was really a combined utero- and vagino-vesical fistula, was cured by sewing the posterior lip of the cervix—the anterior lip and half of the anterior vaginal wall being destroyed—to the remainder of the anterior vaginal wall and then closing what was left of the fistula by transverse sutures, silver wire being used. In all twenty-six stitches were employed in this case. Union was complete, except a small stitch-hole fistula which was cured by a second operation. Of course the cervical canal was turned into the bladder, and menstruation must hereafter take place through that viscus; but that was inevitable under the circumstances, and the patient when discharged was exceedingly comfortable (Fig. 6). In the other case, while attempting to draw down the cervical canal in order to bring the fistula into view, an adhesion between the uterus and its appendages must have given way, for a fatal peritonitis developed and the post-mortem showed a rupture of an old abscess of the ovary which had not been suspected. Of the eleven cases of vesico-vaginal fistula nine were cured, one im-

proved, and one discharged uncured. Usually only one operation was necessary, the method employed being that of Sims—namely, broad, rather shallow paring of the edges of the fistula without wounding the mucous membrane of the bladder, the stitches also (silver wire) not including the bladder mucosa. The patient who was discharged only improved, as well as the one discharged uncured, refused treatment. This injury is now met with very rarely except by operators who have become known as specialists in this particular line. I hope, indeed, that

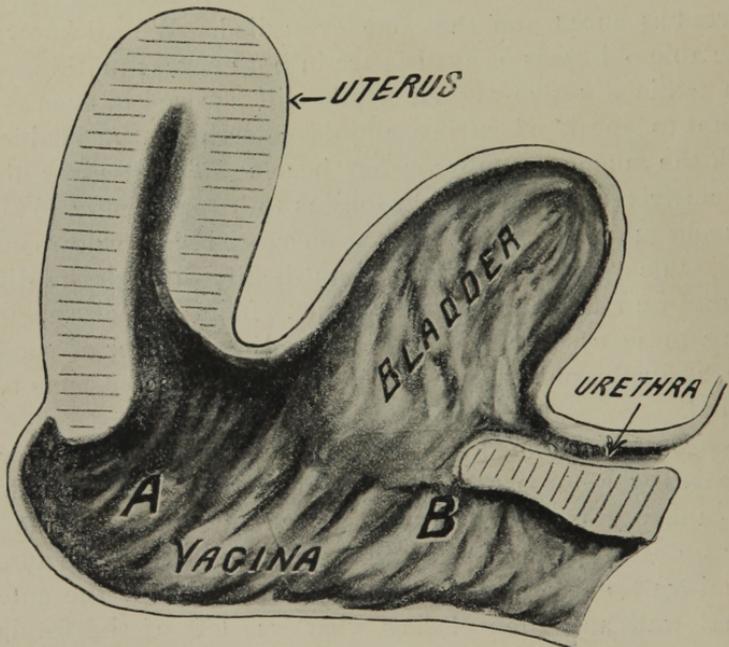


FIG. 6.—Utero-vesical fistula. Anterior lip of cervix sloughed away, posterior lip of cervix (A) sewed to remnant of vesico-vaginal septum (B). (Diagrammatic.)

the recent improvements in obstetrics will soon do away entirely with an accident which should really almost never occur.

VAGINA.—The most common affection of the vagina which came under observation was that of *Prolapse of the Posterior Vaginal Wall* together with that of the anterior wall of the rectum, commonly known as *Rectocele*. This was met with usually in combination with laceration of the perineum, sometimes associated with prolapse of the anterior vaginal wall and bladder, or cystocele, together with more or less dropping of the uterus itself. The treatment of this condition of course was entirely

operative, only such cases being mentioned in the list as required such radical means. The method of operation employed will be mentioned in detail hereafter under the head of Operations. In itself rectocele, in my opinion, is not a condition requiring active surgical interference; it is only when combined

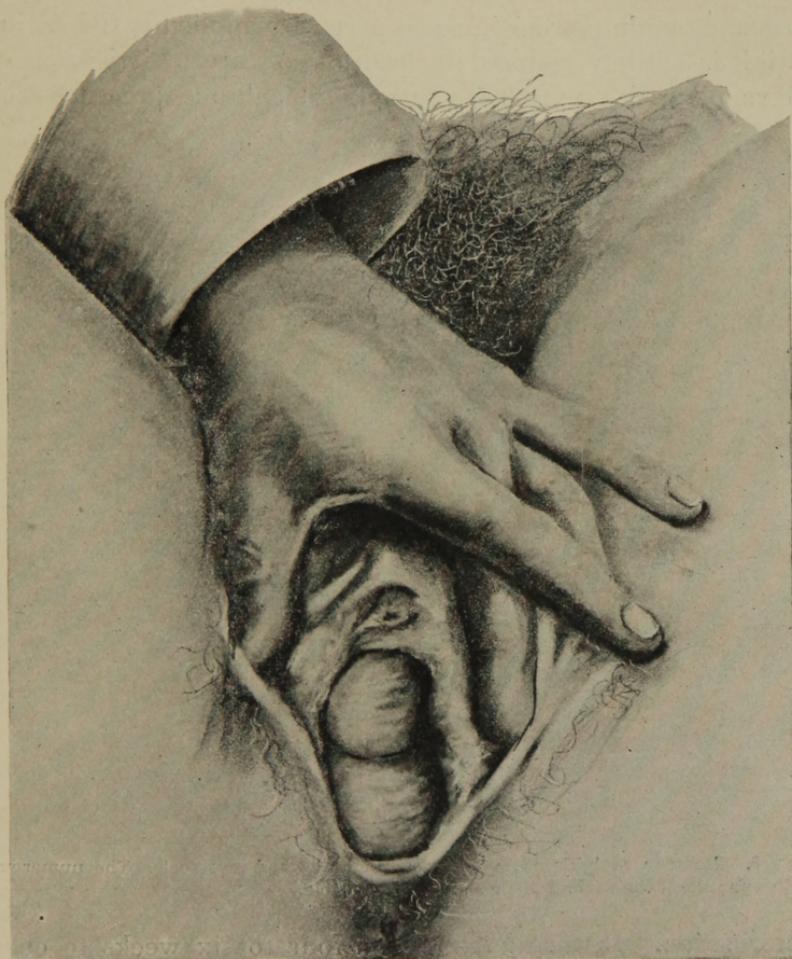


FIG. 7.—Rectocele and cystocele.

with more or less prolapse of the anterior vaginal wall and bladder and of the uterus that it produces decided symptoms and requires surgical treatment. (Fig. 7.)

The next most common affection of the vagina was *Vaginitis*, of which twenty cases were admitted. The treatment of acute or subacute vaginitis, whether of venereal origin or not, consists,

in my practice, in the application of a solution of nitrate of silver, sixty grains to the ounce, every other day, the whole mucous membrane being thoroughly swabbed through a cylindrical speculum with this solution until it has changed its bright or dark red color to the pale pink hue of the normal vaginal lining. When this result has been achieved, astringents, preferably iodoform and tannin powder in equal parts, are applied to the vagina until it is entirely restored to health. A careful irrigation of the vagina with a 1:10,000 solution of bichloride precedes each

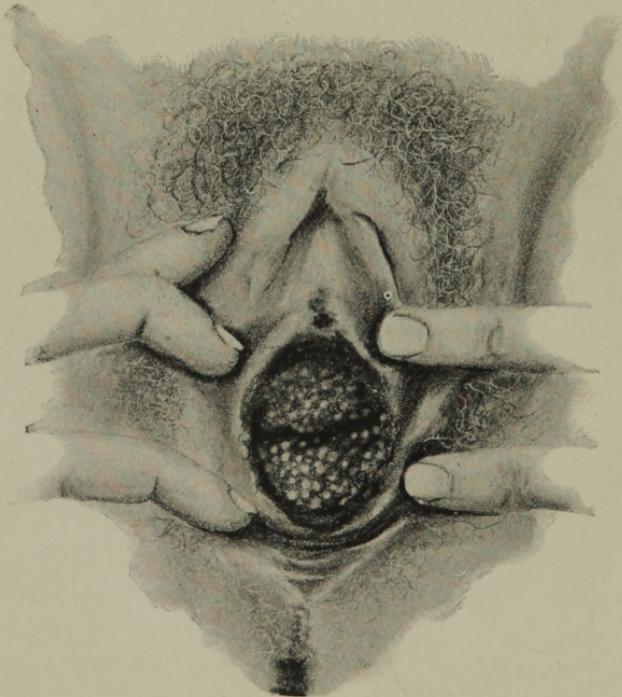


FIG. 8.—Granular vaginitis combined with rectocele and cystocele. The numerous swollen papillæ of the vaginal surface are plainly visible.

cauterization. It usually takes from four to six weeks to cure such cases permanently. They are really not hospital cases at all and can be treated just as well in the office or dispensary, but they are often associated with endometritis or salpingitis and hence find their way into hospital wards, as I presume was the case with us. When the papillæ are swollen it is called *granular vaginitis* (Fig. 8). The treatment is the same.

Senile Vaginitis, or an inflammation of the vaginal mucous membrane occurring after the menopause as a result of malnutri

tion of the part, is recorded only once. This is rather surprising, since it is not an uncommon affection; but it is no more fit for a hospital ward than the ordinary form of vaginitis, which I suppose explains its having been mentioned once only in our report. The treatment is practically the same as that of ordinary vaginitis.

Cystocele, or prolapse of the anterior vaginal wall and bladder, is recorded thirty-seven times (Fig. 7). As it is met with in every case of prolapsus uteri et vaginæ, it must have occurred very much oftener than this, but only the cases in which it was the prominent symptom are mentioned under this heading. This condition is curable only by a plastic operation, but unfortunately the results of this operation are rarely permanent, since the scar which narrows the anterior vaginal wall and keeps it and the bladder in position is very liable to separate sooner or later after

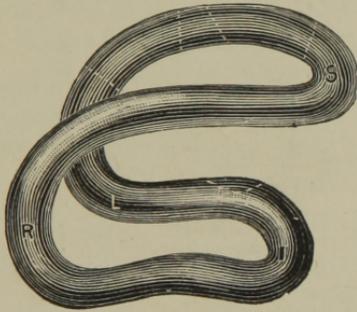


Fig. 9.—Gehrung's pessary for cystocele.

the operation and the old prolapse returns. I have been more successful in treating cystocele—I do not say curing it, but in relieving the symptoms and keeping the anterior vaginal wall in position—by means of a mechanical support than by operative measures. The mechanical support which I employ is that devised by Dr. Eugene C. Gehrung, of St. Louis, which answers the purpose better than any other contrivance of the kind which I have seen (Fig. 9). It has to be watched for fear of producing erosion of the vaginal wall, and of course it must be properly fitted and applied to each case; but when so fitted it can be worn for years with unlimited comfort and satisfaction, the only requirement being that every two or three months it should be removed, cleaned, and, if no abrasion has been produced, reinserted. It is only when the cystocele is associated with a rectocele and prolapse of the uterus itself that I perform the plastic operation

hereafter to be described for this condition. An uncomplicated cystocele I very seldom think fit for operation, since I can get much better results with the Gehrung pessary. Hence we find in the list but fifteen of the thirty-seven cases of cystocele reported

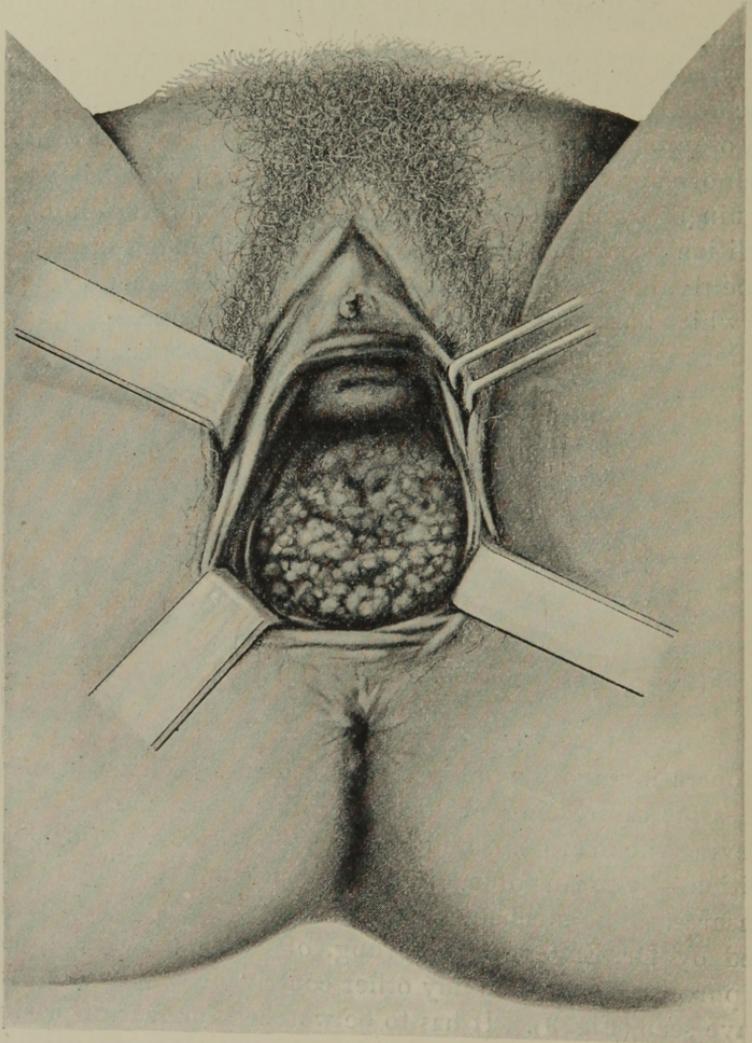


FIG. 10.—Epithelioma of posterior vaginal wall.

as cured. Twenty-one were improved, and in these, of course, the pessary mentioned was used. It is only when the perineum is very much torn or the pelvic floor too much relaxed, so that a Gehrung pessary even of the largest size cannot be retained, that we are obliged to resort to operative means for the cure of the

condition or to let it alone. Astringents applied either as powder or in the shape of injections are practically of no benefit.

Stenosis and *Atresia* of the vagina were met with in fifteen cases, the cause of the malformation being either congenital or acquired. The majority of the cases of atresia were congenital, there being not only an absence of the vaginal canal, but also an imperfect development of the uterus and ovaries. In seven of these cases I made a new vagina, separating the rectum and bladder by blunt dissection to a sufficient depth and keeping the canal open by packing with iodoform gauze and using glass or hard-rubber dilators. In the cases of stenosis of the vagina where the canal was only partially obliterated the constriction was due either to congenital bands or to a contraction following injury received during childbirth. In either case it was easy to incise the constricted portion and by means of graduated dilators enlarge and keep the vagina at its normal calibre. In one case a congenital double vagina was observed. This was easily cured by dividing the septum and closing the bleeding surfaces with interrupted catgut sutures.

One case of *Cyst* of the vagina is mentioned, and another of *Hematoma*. Both are rather unusual conditions. The cyst was situated in the upper portion of the canal and was due probably to the encroachment of an unusually distended cervical gland. It was opened and dissected out. The hematoma was simply opened and packed with iodoform gauze. In both cases a cure resulted.

Uncomplicated *Epithelioma* of the vagina was observed in two instances. This is rather a rare affection, since malignant disease of the female genital organs usually begins in the cervix uteri, and the vagina is only secondarily affected. In neither case was it possible to excise the diseased tissue so thoroughly as to effect a cure. (Fig. 10.)

UTERUS. *Cervix*.—The most common affection of the cervix uteri which came under observation was *Laceration*, which was met with five hundred and eighteen times. In three hundred and forty-two of these cases the operative repair of the tear was performed, with three hundred and sixteen recoveries. The operation known as Emmet's, or trachelorrhaphy, was the one invariably performed. In one hundred and sixty-nine instances, the majority of which were not considered worthy of a plastic operation, a comparative cure resulted from the palliative

treatment employed, which consisted mostly in the sharp curette, nitric acid, or iodized phenol applied to the eroded surfaces. It will be seen by these remarks that I do not consider every case of laceration of the cervix to require a reparative operation. *It is the symptoms which the tear produces and the pathological degeneration of the cervix caused by it which in my opinion call for the operation, not the mere presence of a laceration.* The sutures employed in the operation for lacerated cervix were almost invariably silver wire, the exceptions being those cases of prolapsus where the cervix could be drawn down to the vulva, in which catgut was used. As regards the after-

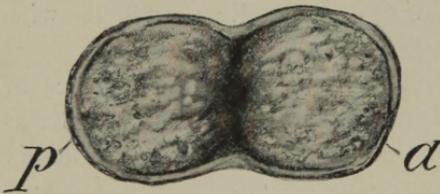


FIG. 11.

FIG. 11.—Bilateral laceration of cervix, third degree, 'seen through Sims' speculum. *a*, anterior lip; *p*, posterior lip.

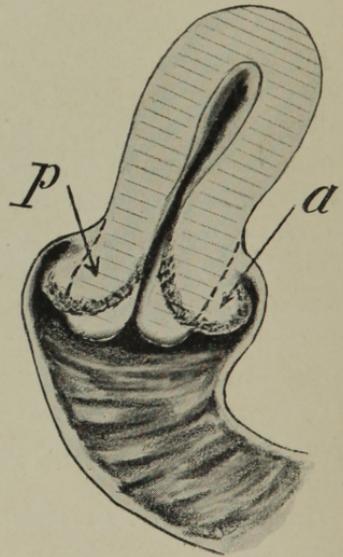


FIG. 12.

FIG. 12.—Lacerated cervix with everted lips, showing normal shape of cervix, to which it should be restored by uniting anterior lip, *a*, to posterior lip, *p*.

treatment of these cases of trachelorrhaphy, I have been in the habit of keeping the patients in bed for two weeks after the operation, using tepid carbolized douches once or twice a day merely for the purpose of cleanliness, allowing them to urinate themselves and permitting any position in bed except the upright. At or about the end of the second week I was formerly in the habit of making an examination with the speculum and, finding everything in good condition, of removing the sutures. Of late years, however, I have modified this practice insomuch

as I have allowed the patients to sit up at the end of a week, to walk about at the end of the second week, and then, on examination finding the sutures in good condition, have sent them home with direction to return after the next menstrual period for the removal of the stitches. My object in doing this was to prevent the recurrence of an accident which I had seen twice in private practice, where removal of the sutures ten days after the operation allowed the imperfectly united lips of the tear to separate, requiring a second operation. Even in private practice I now request patients to call at my office after the first menstrual period following the operation, and there remove the stitches, and I have had no reason whatever to deplore my departure from the old-established rule. I really believe that the majority of patients after an operation for lacerated cervix would do just as well if they were allowed to be up and about attending to their daily duties, but if it should happen that union is not secured or a pelvic peritonitis or cellulitis occurs the blame would of course be attached to the operator who had not been careful enough to keep the patient in bed. As such accidents cannot always be positively foreseen or prevented, I have thought it wiser, in my own interest as well as that of the patients, to observe the precaution of keeping them in bed until all danger of inflammatory action has passed. I will say here briefly that my results from this operation of trachelorrhaphy in properly selected cases have been so good, and that so much benefit both locally and generally has been achieved, that I feel myself justified in recommending it whenever the symptoms produced by the laceration are such as appear curable only by its repair. This condition will probably be found to exist in about one-half of all lacerations of the cervix which come under the observation of the physician. In the other half Nature either cures of her own free will or else the laceration is too small to be productive of any damage.

One of the most frequent accompaniments of a lacerated cervix is a *Catarrh of the Cervical Cavity*. It is indeed a rare exception to meet with a large laceration without finding the lining membrane of the cervical cavity more or less diseased. The destruction of this diseased membrane, therefore, with the sharp curette is part of the treatment of the laceration, and can be performed either at the same sitting as when the laceration is united or previously if the case is a particularly bad one. I

find mentioned only fourteen cases of uncomplicated cervical endometritis, which is of course entirely out of proportion to the frequency of this disease. I can only explain this discrepancy by the fact that cervical catarrh was not mentioned as a separate affection when it occurred with laceration of the cervix. Cervical endometritis is so very common, even in virgins, uncomplicated with any other lesion of the uterus, that it is met

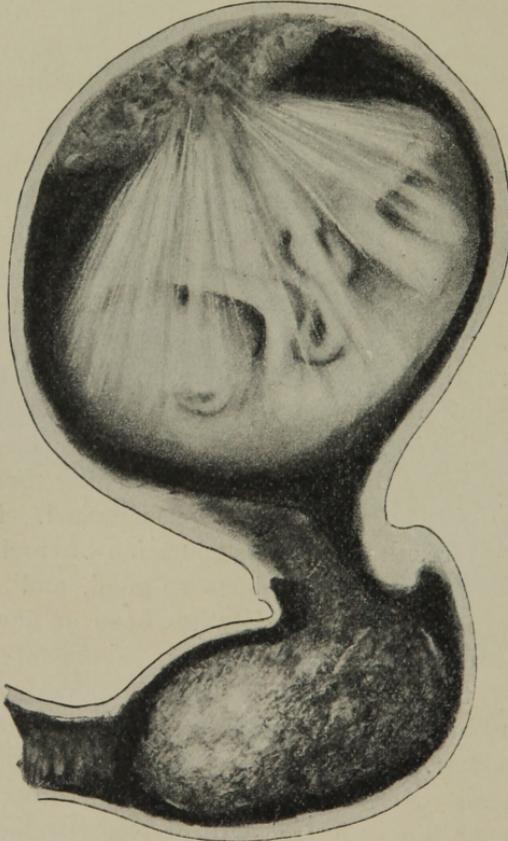


FIG. 13.—Epithelioma of the anterior lip of the cervix, with pregnancy at three months, cured by amputation with galvano-cautery; normal delivery at term.

with almost daily in the office of the gynecologist. Such cases are, however, not usually admitted to the hospitals, since they can be easily treated with the sharp curette and nitric acid at the patient's house, the confinement to bed rarely exceeding a week; and this, I suppose, must be another reason why so very few of these cases are mentioned in the report.

Epithelioma of the Cervix—that is, limited to that portion of

the uterus only—occurred fifty-four times. Curious to say, three of these cases are reported cured. One of them I remember to have occurred in a woman who had flowed profusely for three months and vaginal examination revealed a soft polypoid tumor growing from the anterior lip of the cervix (Fig. 13). The bleeding was so excessive that the vagina was tamponed and no further examination made. There was no suspicion of pregnancy, of course. The growth was removed close to the vaginal vault by the galvano-cautery wire and was found to be an epithelioma. Two months later she returned for observation and reported that she had not menstruated since, and on examination she was

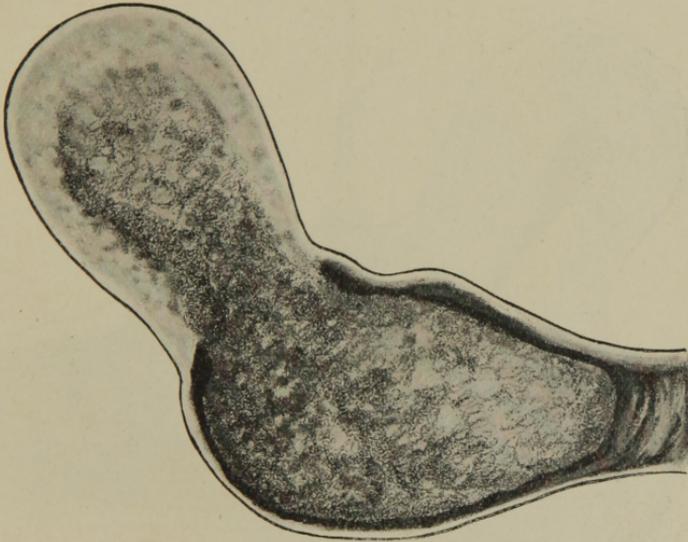


FIG. 14.—Epithelioma of both lips of cervix, the disease extending up into the body of the uterus to the fundus. (Diagrammatic.)

found to be about five months pregnant. The cervix was entirely healthy. A year later she returned with the child in her arms and the cervix was then found to be still in a normal condition. I think it fair to assume that this case was cured. In the other two instances the galvano-cautery wire also was employed and the disease apparently entirely removed, for when again seen, about six months afterward, the cervix was still healthy. The treatment in forty of the remaining fifty-one cases of epithelioma of the cervix consisted in the removal of the bleeding cancerous tissues by the sharp curette and the production of a slough by the application of chloride of zinc, fifty per cent, on cotton pads (Figs. 15 and 16). In one of these cases vaginal hysterectomy was

performed subsequently. Of course this treatment was only palliative, but it served to relieve the patient from the weakening discharges of blood and serum and to arrest the progress of the disease for a time. In some cases the curetting and caustic had to be repeated once or oftener after an interval of several months. I have seen life prolonged by this treatment in one instance four years. Of course it is questionable whether prolongation of life under such circumstances is desirable; at the same time it is our duty to adopt all measures which will allay suffering and prolong life in cases where we cannot cure. In eleven cases the disease of the cervix was thought to be suffi-

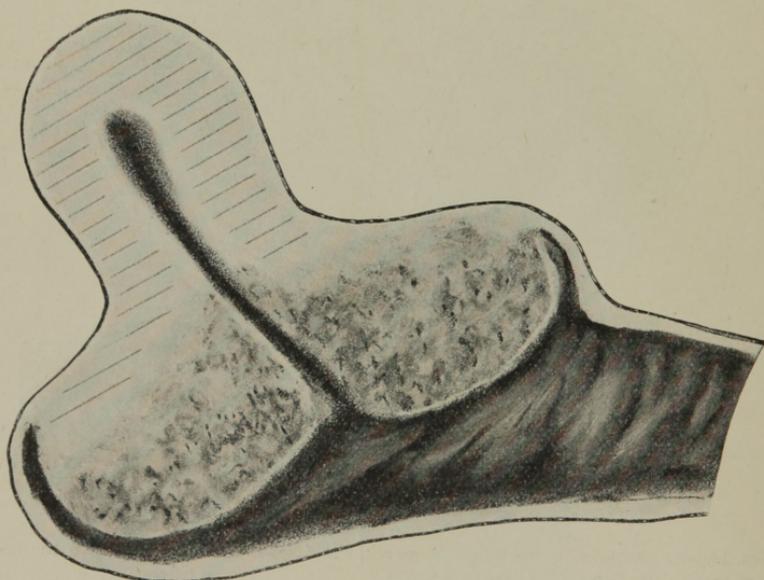


FIG. 15.—Encephaloid cancer of cervix without ulceration.

ciently circumscribed to permit of a fair prospect of a complete cure by removal of the whole uterus. Vaginal hysterectomy was therefore performed, with two deaths and nine recoveries, in all of which, however, ultimately the disease returned and the patients succumbed to it. (Fig. 15.)

BODY OF THE UTERUS. *Abortion.*—I find one hundred and forty-seven cases of this accident mentioned, with one hundred and forty-three cures and four deaths. Obstetrical cases are not as a rule admitted to the gynecological service of Mount Sinai Hospital, but it is inevitable that a miscarriage with retained secundines, or at times even a threatened abortion, comes

to the hospital and, the symptoms being urgent, is admitted. Of course the indication always was to remove such of the decidua as had been left in utero, with the finger if possible, or with instruments, the symptoms for such removal being either hemorrhage or septic infection. If removed early enough the recovery was prompt, but if the case had gone too far, as in the four fatal ones recorded, the death was due to septicemia. The instruments used for the removal of the retained secundines were those devised by me some fifteen years ago, namely,

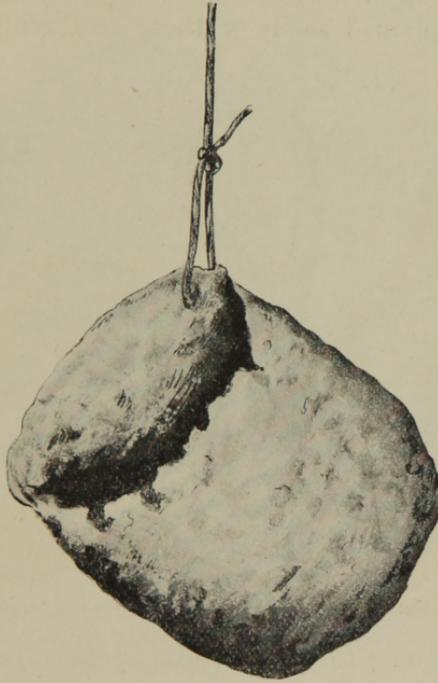


FIG. 16.—Chloride of zinc slough from cancer of cervix.

a large, long blunt curette and a broad flat forceps (Fig. 17). With the curette the attached portions of placenta and decidua were gently scraped loose and removed with the forceps. The uterus was then washed out with a hot Thiersch's solution or, if there were decided evidences of sepsis and the discharges offensive, with a 1 : 10,000 bichloride solution. An ice bag was then usually put over the abdomen in order to insure more thorough contraction of the uterus, and the usual aseptic pad applied over the vulva. Occasionally a secondary salpingitis or pelvic peritonitis resulted in these cases. It was of course impossible for

me to determine whether in these cases the abortion was accidental or induced. I can, therefore, not state whether there is any difference in the progress and prognosis from either of these causes. So far as my experience goes it would be difficult to determine whether a septic endometritis or pelvic peritonitis or salpingitis following an abortion were due to operative induction of the abortion or to external causes, unless indeed a distinct injury of the uterine tissue could be demonstrated.

Anteflexion.—This condition being only pathological in so far as it produces dysmenorrhea or sterility, the cases which were admitted complained solely of these two symptoms, and they

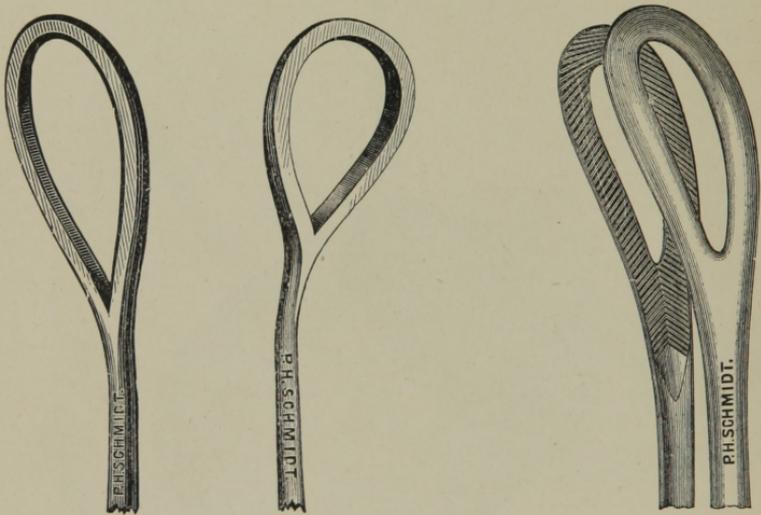


FIG. 17.—Mundé's placental curettes and forceps.

were admitted only for the purpose of the operative treatment necessary to relieve them.

Sarcoma and Carcinoma.—Only six cases of this disease restricted to the portion of the uterus above the internal os are recorded. This number is quite in proportion with the usual figures mentioned by most authorities as indicative of the relative frequency of cancer of the cervix and cancer of the body of the uterus. Twice the disease was of the sarcomatous variety, four times it was epithelioma. The entire uterus was removed in each instance—four times by the vagina, twice by abdominal section—and while in all the cases recovery from the operation occurred, the disease returned and the ultimate result was death. Three of these cases died in the hospital, the other three after

discharge. I confess that my experience in this respect, as indeed is the case with cancer of the cervix also, has not given me great hopes of the permanent cure of cancer of the uterus by a complete extirpation of the organ. I have still to see the case in which the disease did not return.

Three times the rare combination of malignant disease of the endometrium with fibroid tumors of the body was observed; twice the disease was an epithelioma and once a sarcoma. (Figs. 18, 19, and 20.)

Endometritis.—It will be seen by the large number of cases

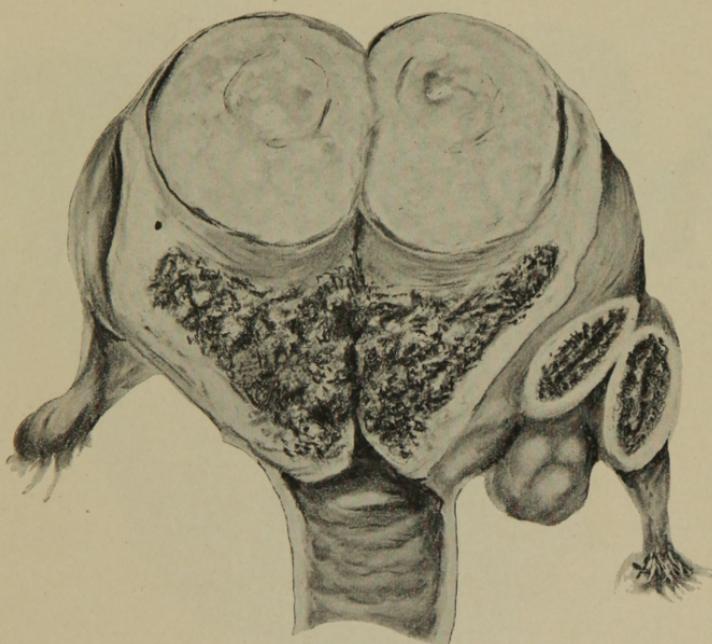


FIG. 18.—Epithelioma of endometrium with fibroids of body of uterus.

of this disease recorded, two hundred and ninety-seven, that it is of very frequent occurrence. Indeed, this figure by no means indicates its frequency, since only a small proportion of the cases seen in my clinic at the Polyclinic and at my office were considered sufficiently severe to require admission to the hospital, and many did not avail themselves of the opportunity to do so. They were sent to the hospital for the purpose of treatment and cure by operation, which could not be safely carried out either in the clinic or at the office. I have found that it is useless to try to cure obstinate cases of endometritis by palliative, mild intrauterine applications such as are safe and

can be borne by the patients in an out-door clinic. I have therefore for a number of years adopted the more radical plan of putting such patients where I could employ active treatment with a fair degree of safety. Such active treatment consisted in thoroughly dilating the uterine canal with a steel two-branched dilator, curetting the whole endometrium carefully but thoroughly above the internal os with the dull curette, below with the sharp instrument, and then swabbing the whole cavity out with iodized phenol equal parts, or in bad cases with

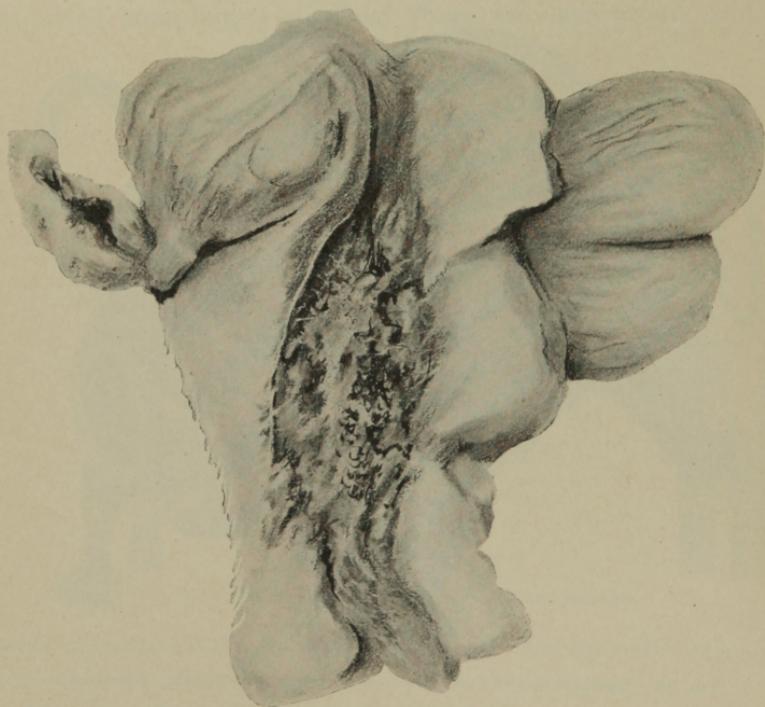


FIG. 19.—Epithelioma of endometrium with fibroids of body of uterus.

a fifty per cent solution of chloride of zinc. A thin strip of iodoform gauze was then passed into the uterine cavity to keep it open and facilitate drainage, and the vagina was loosely packed with the same. The patient was put to bed, an ice bag applied over the abdomen, and the case treated like that of any operation on the internal female genital organs. After forty-eight hours the gauze was removed, the vagina irrigated with a hot Thiersch's solution, and a fresh strip of gauze passed up into the uterus. When the caustic slough had come away, either it or

a milder solution was applied and the gauze reinserted. This treatment was continued for two or more weeks—two usually sufficing—until the discharge ceased and the mucous membrane began to assume a healthy appearance. The patient was allowed to leave her bed at the end of the first week, and subsequent applications, if necessary, could usually be carried out at the office. By this treatment I feel that I have cured more cases by far of chronic endometritis than by the milder measures which I formerly employed. Our figures show one hundred and ninety-seven cures, with ninety-four cases of improvement out of two

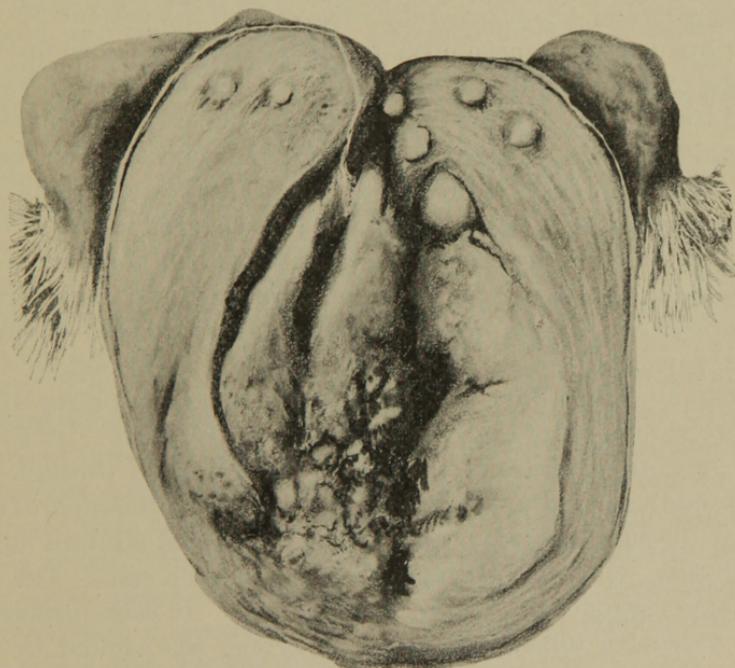


FIG. 20.—Sarcoma of endometrium with fibroids of body of uterus. Removed by abdominal section.

hundred and ninety-seven, only six being mentioned as discharged unimproved. The significance of endometritis in its relations to the causation of sterility, mainly, is so great and so unquestionable that I feel myself justified in recommending the treatment here described. It is perfectly safe if carefully and judiciously carried out; to practise it in the office or in an outdoor clinic would, however, be so hazardous as to be almost criminal. Relapses of course occur, as in every case of catarrhal disease of mucous membranes, and the patient should be prepared for the possibility of such an occurrence. The best hopes

for a permanency of a cure will result from impregnation and a normal delivery.

Fibroids.—Of the one hundred and thirty cases of fibroid tumors of the uterus which were admitted to the hospital the large majority were those of the body; only in three instances was the fibroid growth contained entirely within the tissue of the cervix and was removed by enucleation and traction. In twenty-one cases the fibroid tumor had developed into a polypus and protruded into the cavity of the uterus and partly out of the external os. It was thus rendered accessible to the fingers and instruments and was successfully removed, all the patients recovering but one who succumbed to the hemorrhage accompanying the extremely difficult enucleation of the high-seated pedicle of the tumor. Of the other seventy-four cases, in fourteen the tumor was not thought worthy of either operative or medicinal treatment, since it produced practically no symptoms; in the remaining sixty cases seven were discharged unimproved, operation or other treatment being refused, and forty-six were improved in course of time by ergot, curetting, and intrauterine galvanization. By improved I mean the symptoms—hemorrhage, pain, and growth of the tumor—were controlled by this treatment. Seven died, four after hysterectomy and three after attempted removal of high sessile tumors per vaginam. In three cases galvano-puncture of the fibroid was practised through the vagina and a current up to one hundred and fifty milliampères was passed through the tumor and uterus for fifteen minutes under anesthesia. Only one sitting was given in each case. The abdominal electrode was a large wet clay pad. In each instance a quite extensive inflammation and sloughing was excited by the galvano-puncture, which required free incision, curetting, and drainage, but the tumors gradually disappeared and the patients were discharged cured.

In twenty-nine cases the entire uterus and the appendages were removed with the tumor by abdominal hysterectomy, with four deaths.

Pregnancy.—The cases admitted with this diagnosis, ninety-seven in number, were mostly urgent in character or they would not have been received. Of these two died from septic infection brought in by them from without.

There were fifteen cases of *Extrauterine Pregnancy*, with thirteen recoveries after operation and two deaths; one case of

double uterus with pregnancy, abortion, and recovery; four of hydatids of the chorion with recovery, one of hydramnios, and two of placenta previa.

Only one case of *Inversion* of the uterus was met with, which was originally of puerperal origin, but was of a year's standing when admitted. All attempts at reposition failed, consequently the ovaries were removed by abdominal section and the uterine body constricted with an elastic ligature. Gradual sloughing took place and the patient recovered.

Of *Retroversion* and *Retroflexion* there were one hundred and sixty-one cases, with eighty-five recoveries, sixty-six improved, and ten unimproved. The recoveries were mostly cases in which Alexander's operation or ventral fixation had been performed. The improvements were due to the retention of the uterus in its normal position by a pessary.

Congenital Constriction or *Stenosis* of the uterine canal is mentioned as having occurred ninety times. The symptoms were those of sterility and the treatment practically the same in all the cases—that is, crucial division of the external and internal os, dilatation and packing of the canal with iodoform gauze, or, as I used to do in former years, the insertion of a hard-rubber stem. The stem was worn, except during menstruation, for several months, care being taken to avoid all danger of either sepsis or inflammation. What the ultimate result of this treatment was I cannot say, since only a small proportion of such patients ever return to report whether conception has taken place or not. In the report sixty-seven are mentioned as having been cured—that means, of course, that they were discharged with a normally wide uterine canal; twenty-two were improved, and one was discharged unimproved.

FALLOPIAN TUBES.—*Salpingitis*, subacute or chronic (more or less frequently associated with chronic oöphoritis) occurred three hundred and twelve times, with fifty-two recoveries (after removal), two hundred and thirty-seven improved (after palliative local treatment), twenty-two unimproved, and one death.

Hydrosalpinx was met with in four cases, with one recovery after removal, and three recoveries after vaginal puncture and drainage.

Hematosalpinx, two cases, both cured by removal. In these cases there was no evidence of ectopic gestation.

Pyosalpinx occurred more frequently than either of the two

former varieties, there being forty cases recorded, with twenty-one recoveries after removal by celiotomy, eleven improved after vaginal puncture and drainage, three unimproved (refused operation), and five deaths after celiotomy.

OVARIES.—*Ovarian Tumors or Cysts*, one hundred and twenty-eight cases, with one hundred and fifteen cures (operative removal), two unimproved (refused operation), and eleven deaths.

Carcinoma of the ovaries was met with in seven instances; *Hematoma* and *Papilloma* each in three cases.

Chronic Oöphoritis, more or less with salpingitis, occurred in three hundred and thirty-nine cases, sixty of which were cured (nineteen by removal) and two hundred and seventy-five improved; no deaths.

Solid Tumors of the ovary occurred twice and both were cured by removal. They are not included in the one hundred and twenty-eight cases above mentioned.

ABSCESS OF THE OVARY.—Only since the progress made in abdominal surgery during the last fifteen or twenty years has abscess of the ovary become recognized as a not very uncommon condition. It was formerly admitted, it is true, that suppuration of the ovary might occur as the result of an acute inflammation of that organ following parturition. Puerperal abscess of the ovary was therefore mentioned in most of the older text books and known as a condition of the greatest danger, usually indeed ending in death through rupture and general peritonitis. I remember very well how in 1868, when I was assistant to Prof. Scanzoni at the Maternity Hospital in Würzburg, Bavaria, a puerperal woman died suddenly, a few days after confinement, from general peritonitis produced by some, to us unknown, cause. The autopsy showed a ruptured ovarian abscess, the existence of which had not been suspected, as the woman had no symptoms of intrapelvic inflammation or suppuration prior to or immediately after confinement. It is probable that this abscess existed for some time before labor. Prof. Scanzoni demonstrated the specimen to the class and said that abscess of the ovary was practically unknown except as the result of a post-puerperal inflammation. Abdominal section, however, has shown us that suppuration of the ovary may occur not very infrequently entirely independent of parturition. I cannot say exactly how frequent ovarian abscess is, but I find among the records of this service

sixteen cases in which I operated for this condition. Out of these sixteen only five had borne children or aborted. The frequent non-puerperal origin of the ovarian suppuration is thus confirmed by these figures. There is no anatomical or physiological reason why the ovary should not undergo inflammatory changes or eventually become destroyed by suppuration, any more than the tonsil or any other highly vascular organ. As it is well known, the ovary is supplied with numerous blood vessels, lymphatics, and nerves, which enter it at the hilus between the layers of the broad ligament. The regularly recurring congestions of the menstrual epoch, and the frequent accidental, often even much greater, congestions attending sexual excitement and exposures to external cold, must necessarily gorge the organ with blood and often bring about an inflammatory condition. Let this stimulus be repeated a number of times at intervals insufficient for the return of the organ to its normal vascular state, and an inflammation of the ovary is very easily brought about. Now let a catarrhal or purulent inflammation of the Fallopian tube be added to this hyperemic condition of the ovary, as is even more frequently the case than the ovarian inflammation itself, and a localized peritonitis with adhesions of ovary and tube results. In course of time a repetition of these processes finally brings about a breaking-down of the elements of the ovary and the formation of an abscess. Probably one of the most frequent causes of ovarian abscess is a direct transmission of septic germs through the lymphatics from the infected endometrium. At any rate, the inclusion of the ovary and tube in adhesions interferes with the circulation in these organs and certainly assists in causing their purulent degeneration.

Symptoms.—A woman in whom suppuration of the ovary has taken place may not appear seriously ill. She may be able to be about and to attend to her household duties, but she is scarcely ever free from pelvic pain. This pain is increased at intervals, chiefly by exertion and at the time of the menstrual epoch. At these times and on over-exertion there may be slight chills with moderate rise of temperature. But all these symptoms vary in intensity according to the acuteness of the process. If the abscess of the ovary follows a puerperal inflammation of the pelvic organs its course will be much more rapid and severe than in the cases referred to. The temperature will be high, chills frequent, pain severe, and indications for active therapeutic interference

urgent. It is in these acute cases that rupture into the peritoneal cavity takes place and causes fatal peritonitis. When, however, the symptoms are less acute or the originally acute stage has, contrary to the rule, become chronic, abscesses of the ovary may go on for months, and perhaps even one or two years, without producing very dangerous or urgent symptoms. As already stated, there is constant pain in the pelvic region, with more or less exacerbation at different times. The patients are more or less chronic invalids, and still there seems to be no special reason for alarm or for urgent operative interference. The reason for this is that the sac of the abscess becomes enclosed little by little in firm adhesions which prevent its rupture, and systemic infection is limited by the comparatively slight absorbent power of the walls of the abscess. It is only in this manner that we can explain the fact that women can carry such collections of pus about in their pelves without symptoms of general septic or pyemic infection. Of course they are never well, never free from discomfort, but they may go on in this manner for an unlimited length of time.

Diagnosis.—So much more has been written about collections of pus in the Fallopian tubes since Tait some fifteen years ago first demonstrated the frequency of this occurrence, that but little attention has been paid to suppuration of the ovary. Hence, whenever a fluctuating tumor was found in the pelvic cavity, to one side or the other or behind the uterus, which by its constitutional symptoms was supposed to contain pus, the diagnosis perhaps being verified by aspiration, it was pronounced to be a pyosalpinx or pus tube. I do not deny that pyosalpinx is very much more common than pus ovary. When the pyosalpinx alone is present its diagnosis is not at all difficult, since the peculiar elongated sausage shape of the dilated tube readily distinguishes it from the round ovary. When, on the other hand, an abscess of the ovary alone exists, its round, elastic contour, similar to that of an orange, easily distinguishes it from the distended tube. But when the two exist together, as is by no means uncommon, a differential diagnosis is either difficult or absolutely impossible. We have then a mass which is much larger than either the distended tube or ovary alone, more irregular in outline, but usually spherical or irregularly so, the irregular outline being produced by the distended tube, which has curled about and has become attached to the ovarian sac. Once having pus

in one of the appendages, it is very immaterial, of course, which it is, ovary or tube, since its removal is the only proper course, with the few exceptions hereafter to be noted. To remove the tube without the ovary, or the ovary without the tube, no matter which is diseased, how much or how little, would be absurd, since one is useless without the other. It is extremely probable that purulent accumulations in the tube are much more frequent, as already stated, and occur much more rapidly than those in the ovary; and therefore the more tumultuous in its course and the more rapid the formation of the pus in the pelvic mass, the more likely is it to be intratubal. Of course not every collection of pus in the pelvic cavity is either tubal or ovarian, since accumulations of purulent fluid do occur in Douglas' pouch as simple pelvic, that is to say, intraperitoneal abscess, shut off from the rest of the peritoneal cavity by the superincumbent adherent intestines. But such accumulations of pus have no distinct outline as recognizable by the finger in the vagina; they are diffuse, one spot fluctuating and pointing more decidedly, perhaps, but there is no oval or spherical outline as in pyosalpinx and pus ovary.

Prognosis.—The eventual outcome of an abscess of the ovary is usually very much the same as that in the presence of pus anywhere else—the pus finally succeeds in forcing its way out in whatever direction the least opposition is encountered. This process may occupy some time, even several years, and in a few rare instances the pus may become cheesy and innocuous and remain *in situ* permanently. This result is most likely to occur in abscess of the ovary, which indeed, except in acute cases, seldom bursts inwardly into the peritoneal cavity, because the walls of the abscess are thick and embedded in diffuse adhesions. The case is different in pyosalpinx, where the walls of the sac are much thinner and the danger of rupture internally far greater. Of course abscess of the ovary, so long as the pus remains in any active condition in the sac of that organ, is a constant source of danger to its possessor.

In accordance with the rule which applies to all inflammatory conditions of the appendages of the uterus, it seldom occurs that the appendages of one side are decidedly affected by inflammatory changes and those of the other side remain entirely healthy. The causes which produce inflammation of the uterine appendages—namely, chiefly infection entering from without and

spreading to the tubes through the uterine mucous membrane—usually affect both appendages more or less; hence abscess of the Fallopian tubes is more frequently found double than single. This does not imply that both tubes are diseased to the same extent, because one may contain a much larger amount of pus than the other. With the ovary this does not seem to be the case, since from my notes of the sixteen cases operated upon by me I find that in six cases the left ovary alone contained an abscess, in two the right, and in the eight remaining cases both ovaries had undergone suppuration. In only three of the cases was there a pyosalpinx present at the same time, although in all the cases both tubes were found more or less diseased and were removed with the corresponding ovary.

Complications.—The most serious complication of an ovarian abscess, so far as the operation for its removal is concerned, is the tendency to adhesions between it and the adjacent peritoneum and chiefly to the intestine. Perforation of the abscess into the gut is of not very infrequent occurrence and very much endangers the recovery of the patient. Such abscesses discharge into the gut at more or less regular intervals, and may thus at times be entirely empty after such a discharge, while at others they are full, distended, and easily recognizable per vaginam. Systemic infection, as I have already stated, is rare in these cases, since the absorptive power of the abscess sac is but slight. Perforations into the bladder and vagina may also occur. If the opening of the abscess into the bowel should happen to be very low, so that the contents of the sac drain freely, spontaneous closure of the abscess may in rare cases take place. On the other hand, if the opening is near the upper margin of the abscess sac, fecal matter may get into the sac and increase still further the suppuration and danger of additional inflammation.

Significance.—It goes without saying that an ovary that has been destroyed by suppuration is of no practical use to its possessor. The same applies, with a very slight limitation, to the Fallopian tube, because it is possible that with our recent improved methods of surgery a tube may occasionally be restored to its normal calibre and functions. An ovary, however, in which all the Graafian follicles have been destroyed by suppuration can never be rehabilitated. I have already pointed out the dangers which result from the persistence of an ovarian abscess, and I can but repeat here the old surgical rule that pus, wher-

ever situated, should be evacuated by the nearest possible approach as soon as discovered.

PELVIC PERITONEUM AND CELLULAR TISSUE.—*Pelvic Peritonitis* was the most frequent disease met with. It occurred in six hundred and two cases, with three hundred and four recoveries, two hundred and eighty-one improvements, ten discharged unimproved, and seven deaths. This proportion of mortality, about one per cent, is what I am accustomed to see from pelvic peritonitis. In general peritonitis, of course, the proportion is rather the other way. My prognosis, therefore, in uncomplicated pelvic peritonitis is usually good, even though the disease may last a number of weeks or even months. The usual progress of the disease is a gradual absorption of the exudate, together with proportionately diminishing pain and fever, and an entire restoration to health so far as the general condition of the patient is concerned. Locally, however, adhesions between intestines and the different pelvic organs, with more or less distortion of the uterus and appendages and immobility of both, are rather the rule than the exception as the result of a protracted pelvic peritonitis. Suppuration—that is, a breaking-down of the exudate and the formation of a pus cavity which, while originally intraperitoneal, is of course entirely closed off by adhesions from the general peritoneal cavity—is not at all uncommon, the proportion of such occurrence being, however, probably not more than between five and ten per cent. Pelvic peritonitis, as a rule, exerts a very much more decided influence upon the general condition of the patient than a pelvic cellulitis: there is more decided shock, more pain, higher temperature, and a greater unwillingness of the exudate to yield to treatment and become absorbed. Hence pelvic peritonitis usually lasts much longer than pelvic cellulitis.

The *causes of pelvic peritonitis* may be either septic infection or traumatic influences occurring during or following parturition or some injury to the pelvic organs during perfectly proper surgical procedures, such as curetting or intrauterine applications or dilatation of the uterine canal; or it may be the result of exposure during the menstrual period; or, finally, and this is by no means the least frequent cause, gonorrhoeal infection entering the peritoneal cavity through the uterine canal and tubes may be the cause of the local peritonitis. *Indeed, I am convinced that in the large majority of cases the starting point of pelvic*

peritonitis is a salpingitis, whether the nature of the latter is puerperal or not.

Pelvic Cellulitis occurred far less frequently, only seventy-nine cases being noted, with sixty-seven recoveries, eight improvements, and four not benefited (discharged by request); no deaths. This showing at once demonstrates that pelvic cellulitis is a far less serious affection than pelvic peritonitis. The pelvic cellular tissue is by no means so sensitive as the peritoneum. Cellulitis is usually the result of infection during parturition; occasionally it may be produced by pressure in the vagina, such as of a pessary, or by some accidental injury, such as bruising or laceration by obstetrical instruments. The usual course of the exudate in pelvic cellulitis is absorption, which takes place much more rapidly than in pelvic peritonitis. Suppuration, however, is more common in cellulitis than in peritonitis, the proportion being fully ten to fifteen per cent.

The differential diagnosis between these two conditions, pelvic peritonitis and pelvic cellulitis, is often by no means easy. If we remember that an exudate which is situated where there is no cellular tissue must necessarily be intraperitoneal, and another the location of which is outside of the peritoneal cavity deep down in the pelvis, reaching even to the perineum or situated between rectum and vagina behind or bladder and vagina in front, must necessarily be cellulitic, we will usually avoid mistakes. Still, it is often exceedingly difficult to distinguish between a hard, brawny mass which extends up on the anterior lateral abdominal wall and which is situated between the peritoneum and the muscular fascia, having worked its way up from between the two folds of the broad ligament, and another which consists of the agglutinated intestines which have become adherent to the peritoneum of the anterior abdominal wall. In case of suppuration in such exudates it is often only when the abscess has been opened and is found to extend down into the pelvic cavity, closely hugging the bony pelvis, that we are able to decide that the exudate was extraperitoneal. Often only by making a median abdominal incision and locating the appendages on the affected side, merely as a matter of diagnosis, would it be possible to distinguish whether the exudate was intra- or extraperitoneal. If an abscess has once formed, and, if intraperitoneal, is securely shut off from the rest of the peritoneal cavity by adhesions, it makes very little difference whether it was origin-

ally intra- or extra peritoneal, so far as its evacuation and subsequent treatment are concerned. Both these varieties of pelvic abscess, the true or extraperitoneal and the false or intraperitoneal (this latter variety usually starting from an inflammation or a suppuration of the Fallopian tubes), show a great tendency to burrow down into the pelvis and to leave behind a more or less deep and tortuous sinus after being opened. Such sinuses are usually very slow to heal, and baffle the skill and ingenuity of the surgeon to the greatest degree.

The usual *treatment of pelvic peritonitis and pelvic cellulitis* has been in my hands as follows: The diagnosis having been made, if there is as yet no decided exudate, but only a more or less distinct tenderness in the vaginal vault as felt by digital examination or by pressure through the abdominal walls, an attempt is made to check the inflammation by applying an ice bag over the hypogastrium. Perfect rest is enjoined, with low diet and morphine by the rectum or hypodermically, as the pain may require. If there is a temperature (in the mouth) above 102° , small doses of phenacetin (five grains), with two or three grains of citrate of caffeine to each dose if the heart is at all weak, are given according to the temperature. If in spite of this the exudate develops, or if it is already present when we first see the case, and the temperature is above 102° , the ice is continued or applied and kept on until the temperature is reduced below 101° . Then the ice (either ice bag or ice-water coil) is removed and replaced by cold-water compresses, which are gradually allowed to become warm, and in the course of a few days, the temperature remaining as low as 101° or below, are changed for hot flaxseed poultices with the object of inducing absorption of the exudate. If the exudate is large, easily felt and mapped out through the abdominal wall, whether it be extra- or intraperitoneal, I usually order a large fly blister, the poultices being placed over it immediately and continued after it has drawn. These blisters may be repeated if the exudate proves obstinate in its absorption. I do not as a rule employ hot vaginal douches in the acute stage of pelvic peritonitis, partly because I do not think they do much good, and partly because the necessary moving about of the patients does them harm. Absolute rest in the recumbent posture is one of the essential factors of a successful treatment of cases of pelvic inflammation. The bowels are kept moderately free by means of saline laxatives or enemata, if the

stomach is irritable, as it usually is in the earlier stages. After a week's complete absence of fever and pain the patient may be allowed to try sitting up in bed, and after another week of favorable progress she may sit in a chair and gradually be allowed to walk.

Exacerbations of fresh exudate, sometimes indicating suppuration, are very common in both pelvic peritonitis and cellulitis, and should of course always indicate a return to the measures employed in the acute or subacute stages. In this way such cases may run on for weeks and months, taxing the endurance of both patient and physician to the utmost, and still eventually recover. After a pelvic cellulitis the recovery is usually more complete and there are less traces left behind of the inflammation and exudate, such as uterine displacement, adhesions, etc., than is the case after a pelvic peritonitis. There appear to be certain seasons of the year when these pelvic inflammations are much more common than at others. This appears to be the case in the early spring months, when I have noticed that for several weeks almost none but patients with pelvic inflammation apply for admission. I have thus had as many as seventeen beds out of twenty occupied by such cases at one time, very much to the disgust of both myself and the house staff, since all such patients are liable to be difficult cases to manage, being peevish, complaining, impatient, and not particularly interesting from a scientific standpoint. For this reason at such seasons operative cases are naturally less common, simply because there are no beds left for them.

Pelvic Abscess is recorded one hundred and three times, with eighty-seven recoveries, six improvements, one not improved, and nine deaths. As I have already mentioned, it is not always possible to state whether an abscess was originally extra- or intraperitoneal. I have therefore not attempted to discover how many of each variety occurred, finding that the records do not give sufficient data on the subject. Many of these abscesses pointed through the anterior abdominal wall, many others through the vaginal roof, and were opened wherever the pus was most easily reached. Thorough irrigation and drainage was in each instance employed. As a rule I have found those abscesses which pointed into the vagina much more tractable to treatment and more disposed to close than those which had to be opened through the anterior abdominal wall. The difference

in case of drainage in either case will readily explain this experience. In the nine fatal cases death occurred either from exhaustion due to the long continuance of the illness or from complication with interstitial nephritis. So far as I remember, there is no case on record of an extraperitoneal abscess bursting into the peritoneal cavity and causing fatal peritonitis, but there are two of adherent pyosalpinx which caused death in this manner before the indistinct abscess could be detected and evacuated. The autopsy showed the cause of death.

Cysts of the Broad Ligament, or Parovarian Cysts, were seen twelve times and were cured by laparotomy and enucleation of the cyst, with stitching of the layers of the broad ligament into the abdominal wound in each instance, the cyst gradually filling up by granulation. Ovarian cysts which have developed between the layers of the broad ligament are not included in this category. In one case the cyst was of enormous size, containing thirty-eight pints of pure limpid fluid. I believe this is one of the largest cysts of the broad ligament on record. It had been tapped several times by other physicians, and I decided upon removing it because it continued to refill. It was fully six months before the sac had entirely closed.

Hematocele and Hematoma.—I have adopted the German differentiation between these two conditions, and understand by *hematocele* an accumulation of blood contained within the peritoneal cavity, whether free or closed off by adhesions above; and by *hematoma* a similar effusion of blood into the pelvic cellular tissue.

Of *Pelvic Hematocele* I find recorded eleven instances, with seven recoveries, one improvement, and three deaths. It is a well-known theory, originally advanced by Tait, that a sudden effusion of blood into the pelvic cavity of a female is in the large majority of cases due to the rupture of an ectopic pregnancy, usually of the tubal variety. I think that this view is correct, although I dare say that once in a great while such a hemorrhage may take place from the bursting of a varicose vein situated somewhere in the pelvic cavity. In these cases of intraperitoneal hemorrhage death may either occur rapidly, too quickly to permit of surgical interference by abdominal section and ligation of the bleeding vessel; or the patient may linger on for several days and give the surgeon an opportunity to cure her by such an operation, or, if not so relieved, dies

from exhaustion; or the blood becomes encapsulated, the hemorrhage ceases, and the patient gradually recovers without an operation, the blood clot being absorbed after a greater or lesser lapse of time. It depends upon the peculiar features of each individual case what the treatment shall be. An existing hemorrhage not arrested, with the patient in condition to permit of a surgical procedure, calls for immediate opening of the abdominal cavity and tying of the bleeding vessel, with removal of the bleeding tube if this proves to be the seat of the hemorrhage. This was the course pursued in fourteen of the fifteen cases of tubal pregnancy here reported. When the case becomes more subacute, time is given for consideration, but probably the same line of action should be followed. The hemorrhage arrested, however, and the effused blood encapsulated and shut off from the general peritoneal cavity by adhesions, the treatment is practically the same as for originally extraperitoneal effusions—viz., vaginal evacuation; and this was the method employed by me. The three deaths were due to previous septicemia and exhaustion.

Hematoma, or Effusion of Blood into the Pelvic Cellular Tissue, was met with in sixteen cases, all of which were operated upon, with fourteen recoveries and two deaths. The exact etiology of extraperitoneal effusions of blood in the pelvic cavity is not so absolutely certain that I would be willing to lay down a positive law on this point. It is quite probable, as Lawson Tait has also stated, that the majority of these cases are due to the rupture of a tubal pregnancy between the layers of the broad ligament. The history certainly in most instances seems to bear out this conclusion, but an ovum or even embryonic tissue is very frequently not found in the discharges from these sacs, the contents of which are merely dark, coagulated or fluid blood. As it is impossible for us to say whether in these cases a varicose vein was or was not present, a rupture of which may have been the source of the hemorrhage, the exact etiology can usually not be determined. I am, however, inclined to favor the intraligamentous rupture of a pregnant tube as the usual source of the bleeding. My treatment in these cases of pelvic hematoma is the same as that employed by me in encapsulated pelvic hemocele. I have always sought the most prominent portion of the tumor protruding into the vagina, and where I could feel most distinctly the fluctuation and the mass was most tense I have inserted an aspirator needle, and on verifying the diagno-

sis by the withdrawal of a few drops of dark blood I have opened the sac with sharp-pointed scissors, separating their blades, and between them inserting a steel two-branched dilator. The scissors were then withdrawn and the opening enlarged as much as possible by the dilator, the finger inserted, and by its means the blood clot broken up and gradually removed with the finger or the large dull curette or a Sims depressor. The cavity was then thoroughly washed out with a hot Thiersch's solution, a large drainage tube inserted, and means assured for thorough irrigation and drainage. In course of time, usually not more than four to six weeks, these cavities would close completely, often without any rise of temperature, and the patients make a comparatively painless and uneventful recovery. Only in one instance was I induced by some publication of other, more enterprising, and I think more foolhardy operators than myself to open the abdominal cavity and endeavor to extirpate the intraligamentous sac through such an incision. Finding that I could not approach the wall of the hematoma to the anterior abdominal wall and attach it there by stitches before opening it, I closed the abdominal cavity and opened the hematoma per vaginam as just described, with a perfectly satisfactory result. The two women who died succumbed, one to secondary hemorrhage occurring during the night before help could reach her, and the other to septicemia. In the treatment of these cases of pelvic hematoma I have almost invariably followed the rules which I have laid down for my guidance in all cases of fluid pelvic effusions which dip deep down into the pelvic cavity—namely, that if the tumor can be easily reached and opened and its contents evacuated through a vaginal incision, whether they be blood, pus, or ovarian fluid, I have preferred as a rule so to operate upon them, and have not had any occasion to regret this practice. So far as ovarian cysts are concerned, I would limit this procedure, however, entirely to single intraligamentous cysts, which in my opinion are the most difficult and disastrous instances of cysts of the ovary which the surgeon encounters. Undoubted pyosalpinx also, especially if double, and double ovarian abscess I likewise would prefer to remove *in toto* by abdominal section rather than treat by vaginal incision and drainage. While the latter might be easier and less dangerous, a permanent cure would be less likely to result than if the entire sac of the abscess is extirpated.

It amuses me to see gentlemen here and abroad in medical

journals and gynecological societies now advocating the opening of pelvic abscesses per vaginam as something quite new and original, when I can prove by my published writings that I followed this practice before 1880 and have since then been an earnest supporter of it. (See Seguin's Arch. of Med., 1880; JOUR. OBST., 1885; N. Y. Jour. Gyn. and Obst., 1892.)

Sarcoma of the pelvic cellular tissue was encountered in four instances, two being discharged unimproved and two dying, the diagnosis not being made positively until the autopsy. Of course such cases are incurable no matter what is done, and, if the diagnosis can be made beforehand, no operation or treatment is indicated.

ABDOMEN, AND GENERAL DISEASES.—*General Carcinosis* of the abdominal organs was met with in nine cases, with six deaths after exploratory incision and three discharged unimproved.

Sarcoma of the Abdominal Wall involving one-half of the left rectus muscle was met with in two instances. Both were cured by extirpation of the diseased tissue, during which operation the peritoneal cavity was opened and as much peritoneum was excised as was attached to the posterior surface of the diseased muscle. The operations were decidedly difficult and complicated, but both patients recovered, although I am not able to say whether a relapse occurred or not, as I lost sight of them.

General Peritonitis was very much more rare than the pelvic variety, being seen only twenty-four times. Of these twenty-four only twelve recovered and twelve died, the inflammation being secondary or septic and failing to respond to any form of treatment. In two cases the peritonitis was of the purulent variety, and abdominal section with thorough irrigation was adopted, but both patients succumbed.

Tubercular Peritonitis was seen four times, with three improvements following abdominal section, and one death. I have not seen any favorable results in this form of peritonitis from opening the abdominal cavity, either in hospital or private practice.

Abdominal Sinus remaining after section for diseased ovaries and tubes or pelvic abscess which was opened through the abdominal wall occurred ten times. It is with regret that I am obliged to report that only three of these ten were cured by treatment—that is, curetting and packing the sinus with sterilized gauze. The seven others were discharged improved—that is, with the sinus very much diminished in depth but still un-

healed. The cases where the sinus penetrated so deeply as to reach the roof of the vagina were treated by through drainage into the vagina, the practice being to gradually draw the drainage tube downward and give the upper portion of the wound a chance to close by granulation and contraction. Plausible as this method seemed, it unfortunately was not always successful, and I know of nothing in my experience more obstinate or tedious to cure than these deep pelvic sinuses persisting after pelvic abscess or suppurating laparatomies.

Floating Kidney came into my service accidentally eight times. In two instances the kidney was found in the pelvic cavity, situated behind and to the left of the uterus, and simulating there the diseased and adherent appendages of that side. In the first case the correct diagnosis was not made until the offending mass was enucleated, as it was supposed, from the adhesions, but actually from its capsule, and brought out of the abdominal wound, when it was found to be the left kidney. It was removed, the pedicle being tied off in the usual manner and dropped, and the patient recovered. In the second instance the presumptive diagnosis of displaced kidney was made in recollection of the first case, and being confirmed by abdominal section, and the kidney being healthy otherwise, it was not disturbed. This case also recovered. Once nephrorrhaphy was performed. In the other cases no operative interference was attempted, supporting trusses being thought sufficient.

Obstruction of the Intestines was met with three times, abdominal section being performed in all, with one recovery. This case was a most desperate one, the intestines being universally adherent and almost gangrenous. Abdominal hysterectomy for fibroid had been performed by another surgeon some time before. After all the obstructions and adhesions were loosened and the abdominal wound closed, large oxgall and turpentine enemata, with calomel and jalap by the mouth, were ordered, with the result of producing copious fluid and gaseous evacuations which completely reduced the tympanites and paved the way for recovery.

Perityphlitis should not really have been admitted to my service, but, under the mistaken diagnosis of pelvic peritonitis on the right side, three such cases were received. In two the diagnosis was made by me before operation; one case recovered after operation; the other, complicated by pregnancy and abor-

tion, died of peritonitis after operation. In the third there was an abdominal tumor of the size of a cocoanut on the right side, which was correctly pronounced to be an ovarian cyst, and the temperature and pain present were ascribed to probable torsion of the pedicle and inflammation of the cyst. On opening the abdominal cavity, however, it was found that while the diagnosis of ovarian cyst was correct, the fever was due to a deep-seated abscess which had burrowed down from the pericecal region between the layers of the right broad ligament, and had so destroyed the tissues in that neighborhood as to cause a perforation into the general peritoneal cavity. This patient died from general peritonitis. The presence of the ovarian cyst had, of course, masked the true nature of the case.

Cancer of the Breast occurred five times, and was cured, so far as the results are known, by complete extirpation of the mamma and cleaning out of the respective axilla. As this organ is not really included under the generative organs of the female in the classification of the hospital, such cases would not have come under my care unless admitted by me as private patients, which was the fact in all these five cases. Many authors, and authorities also, however, claim that the female breast is a part of the sexual organs and therefore its diseases belong to a gynecological service.

OPERATIONS.¹

The majority of the operations were performed in the large general operating room of the hospital, which is situated on the top floor with a sunny southern and western exposure. It is provided with all the modern appliances for asepsis and for the antiseptic performance of operations. Unfortunately the extremely large general surgical service of the hospital at times renders it inevitable that operations on cases which are not strictly clean, such as suppurating and gangrenous wounds of different varieties, should precede more or less recently—that is, on the same day—fresh plastic or abdominal operations. In order to avoid as much as possible the danger of septic contamination from such unclean cases, the hospital authorities have

¹ All operations in my service were performed by myself, with the exception of a comparatively small number which were done by the gentlemen who kindly substituted for me during my annual summer vacation (notably Drs. Gerster, Wyeth, Fluhrer, and Scharlau, and the assistant gynecologist, Dr. Joseph Brettauer, whose service dates since 1893). Occasionally the respective house surgeon was allowed to perform minor operations under my personal supervision.

during the past year had constructed on the same floor a second operating room, which is used only for absolutely clean cases, all other doubtful and infectious operations being performed in the old operating room. In this way I hope that one great source of danger of infection has been removed. It is to the credit of the surgical house staff, overworked as they usually are, that so many large surgical procedures have been carried out with so much success as the records show, under circumstances at many times, especially in former years, so decidedly unfavorable. So far as my service is concerned, there is one unpleasant feature connected with operations—namely, that patients are obliged to be transported from the first floor on one side of the hospital to the top floor on the other side before being anesthetized, and are after the operation again conveyed along the same route to the ward. Of course they are carried up and down on an elevator, but in winter the draughts necessarily present in so large an institution cannot entirely be kept away from patients who have often been for a long time subjected to a more or less high temperature in the operating room, and an occasional pleurisy or pneumonia may possibly be traced to this exposure. Private patients are usually anesthetized in their rooms, but even they have to be carried along two corridors and up one story before reaching the operating room.

Anesthetics.—The anesthetics used in my service have been either ether or chloroform, preferably ether in longer operations and whenever the heart showed the least trace of weakness. Chloroform was employed for shorter operations and whenever there was any sign of renal or pulmonary disease. The utmost care is exercised, of course, in the administration of the anesthetic, and I have never seen any decided deleterious result from its immediate administration, but I have seen several instances of acute nephritis and broncho-pneumonia following the use of ether which I was obliged to attribute to that form of anesthetic. Any sign of renal disease (casts, renal epithelia, or albuminuria), or even renal insufficiency as shown by a decided diminution of the renal secretion, has usually caused a substitution of chloroform for ether as an anesthetic. Still, I consider ether safer than chloroform, and I have often had patients under the influence of ether from two to three hours. On the other hand, I remember having a private patient deeply under chloroform (to be sure, it was an obstetrical case) from 2 to 8 P.M. without any bad affects.

A curious and rather unfortunate accident occurred as an indirect result of the anesthesia in one case, a private patient. After the operation, which was an abdominal hysterectomy for uterine fibroid, the patient complained of inability to use her left arm. At first it was thought that pressure on the axillary plexus of nerves during the crossing of the arms behind the head, as is customary during anesthesia, had produced a temporary paralysis of the arm which would disappear in a few days. But as the arm remained useless a more thorough examination was made and a fracture of the coracoid process discovered, which had probably been caused while lifting the heavy woman on or off the operating table. When she left the hospital the forearm had not regained its strength, and I heard from the lady a year later that her hand was still weak. This case should be a lesson to exercise care in handling patients during anesthesia. I have seen several other cases in which temporary loss of power in one arm followed an operation on the pelvic organs and where the operator certainly could not be blamed for this symptom.

The surgical staff, of course, endeavor to be scrupulously clean and aseptic at all operations; the same applies to the nurses. I myself always put on a clean undershirt and a pair of trousers which I keep at the hospital and which are baked after every operative clinic, and of course observe all the usual precautions as regards scrubbing and disinfection of my hands and arms. The solution used for disinfection of the hands and arms is a 1:1000 solution of bichloride, that for instruments boiled sterilized water, and for the irrigation of wounds the same or Thiersch's solution; in unclean wounds, 1:10,000 bichloride solution. I do not believe it possible that more scrupulous antisepsis can be employed anywhere than is done in the operating rooms or the wards of Mount Sinai Hospital, and still at rare intervals an unexpected and mysterious case of septic infection has occurred. Visitors are admitted to the operations with the distinct understanding that they carry no infection with them and refrain from conversation or from handling anything or anybody connected with the operation.

Each surgeon has his own operating day, mine being Wednesday, the usual hour being 2:30 P.M. I have frequently been occupied in the operating room, constantly operating with the exception of the time employed for the anesthesia of a new

case, from that hour until 6 or even later. The anesthesia is administered in a room opposite the operating room and is under the care of one of the junior assistants attended by two nurses. No patient is returned to the ward until she has at least recovered semi-consciousness. Urgent cases are of course operated on at other times, as they may happen to occur.

VULVA. Abscess of the Vulvo-vaginal Gland.—My practice has always been to open these abscesses thoroughly from top to bottom, wash them out with 1 : 1000 bichloride solution, and then pack them with iodoform gauze. A smaller incision than this will usually result in a superficial healing of the abscess, with the formation of pus sooner or later in its depth, necessitating a new operation, and this process may be repeated a number of times until finally a radical cure of the abscess is achieved. Only in one instance have I found it necessary to excise the entire gland. This proved to be quite a bloody operation, requiring from ten to a dozen ligatures on bleeding branches of the internal pudic artery.

Epithelioma.—This disease is of comparatively rare occurrence on the vulva. Of course there is no other treatment but that of complete extirpation, if possible, and I have found the knife preferable to the actual cautery, since the latter leaves so large a sloughing surface as to render its closure tedious and difficult. Of course the diseased tissue must be so freely excised as to afford a fair chance for a permanent recovery. The raw surfaces can be approximated by sutures and should unite by first intention. If the disease has spread so far that there is no possibility of securing a union by first intention, it is better to use the Paquelin cautery and to destroy the tissue as thoroughly as possible, no matter what time may be required for the closure of the resulting wound. Relapses, unfortunately, are not uncommon, hence the prognosis in these cases is usually doubtful. (See Fig. 3.)

Hematoma is usually due to an injury inflicted accidentally. If it occurs during childbirth it is produced by the rupture of a vessel during the distention of the parts by the protruding head; but when occurring in the non-parturient state there is usually some extraneous injury at fault, such as a fall on the back of a chair or some other sharp surface, a kick or other accidental bruise. Only when the effusion of blood is of considerable size is it necessary to evacuate it; if smaller, Nature usually takes care of its absorption.

The *Papilloma* or elephantiasis mentioned in the report comprised the clitoris, labia majora and minora, and occurred in a mulatto woman four months pregnant. As the growth had increased during the pregnancy and was likely to interfere with parturition at term, I concluded to remove it and did so by means of the knife, having first ligated the whole mass with the elastic ligature, which was kept in place by means of several long needles which were passed transversely through the base of the tumor. As the tumor was excised deep stitches were introduced and tied, which effectually controlled the hemorrhage. The patient made a perfectly uneventful recovery and pregnancy was uninterrupted. (See Figs. 1 and 2.)

Nymphomania.—In the one case of this disease in which an operation was thought justifiable I excised the whole clitoris together with the labia minora, the indication being incontinence of urine, unquestionably produced by a long-persisting habit of masturbation. Observation in the ward and the general appearance of the patient sufficed to make this diagnosis. The wound was closed by catgut sutures and healed by first intention. The result was surprising, for the tone of the bladder rapidly improved and on discharge of the patient she had regained its entire control.

PERINEUM.—*Perineorrhaphy* for laceration of the perineum was performed one hundred and eighty-four times, one hundred and twenty one times for incomplete laceration and sixty-three times for complete. Of course there were very many other cases of laceration of the perineum admitted, but only those are recorded in which the laceration was of sufficient importance to require operative repair. During the earlier years of my incumbency as gynecologist of the hospital my method of operation for laceration of the perineum was that recommended by Emmet and Thomas—namely, a semilunar or butterfly-shaped denudation of the vaginal orifice and posterior vaginal wall, and the introduction of silver-wire sutures transversely so as to approximate the denuded surfaces. In complete laceration the method described by Emmet in his well-known text book was the one employed, silver wire also being the suture material. My results with these forms of operation were relatively very good, since the majority of the cases recovered with a very fair restoration of the normal condition. Still, there were, in the complete lacerations, an unpleasantly large proportion, if in the

aggregate still small enough, of failures, the sphincter and chiefly refusing to unite and incontinence persisting more or less. In this respect my experience did not differ in any way from that reported by almost every operator in this line. During a visit abroad in 1886 I saw Tait in Birmingham do a flap-splitting operation for complete laceration of the perineum. Although he did it in four minutes (by my watch), and so hastily that I presume most of the spectators failed to catch the princi-

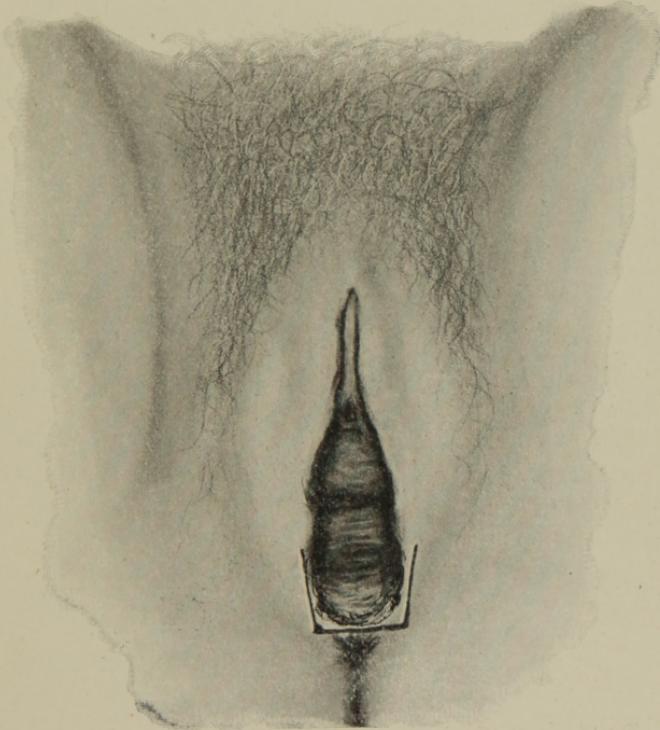


FIG. 21.—Lines of incision in flap-splitting operation for incomplete laceration of perineum.

ple of the operation, I happened to be so close to him that I saw exactly how it was done, and it struck me that, particularly for complete laceration, it was by far superior both in method and time of execution to the older procedures. While the operations of Emmet and Thomas referred to could scarcely be performed in less than half an hour, the flap splitting operation for both complete and incomplete laceration was easily accomplished in from four to ten minutes. Since that time I have without exception employed this method for the respective injuries and

have had no reason to be dissatisfied with the results, since in these eight years I have had at least one hundred complete cures. (Figs. 21, 22, and 23.)

To those who do plastic surgery it is not necessary to say that such work is always subject to more or less imperfect results, since primary union is not always obtained throughout a large denuded surface; hence it is not surprising that a certain number of these one hundred and eighty-four perineorrhaphies were

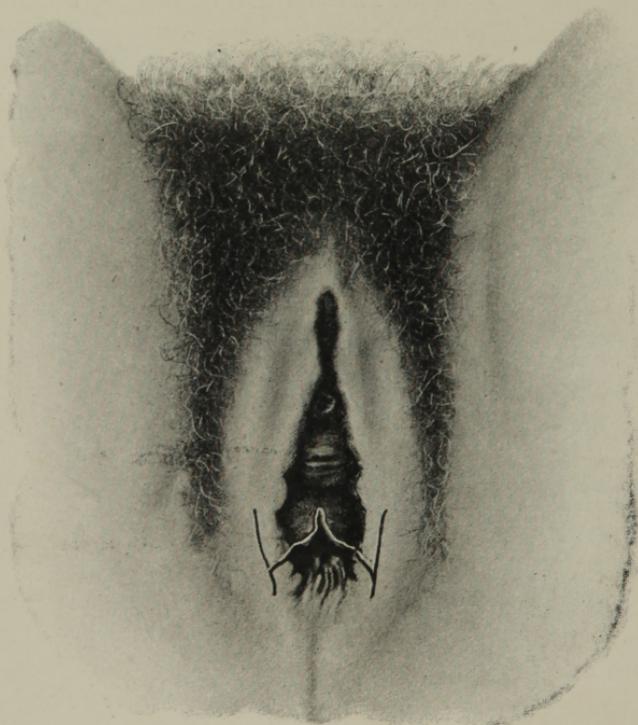


FIG. 22.—Lines of incision in complete laceration of perineum.

only partially successful. In the main, union was so complete as to restore practically the perineum to its normal condition. This applies entirely to the cases of incomplete laceration; those of complete laceration were so fully successful that I do not recall a single instance in which the patient was discharged without the restoration of the retentive power of her sphincter ani. I admit that in a number of cases operated on by the old method the result was produced by secondary contraction of the wound due to healing by granulation and second intention, but substantially the restoration of the bowel to its normal function

was obtained in every case. The one case of death has been a special cause of regret to me, since it was entirely avoidable, having been caused by septic infection (how introduced I do not know), which might have been counteracted had the stitches been removed early and thorough disinfection of the wound taken place, no matter whether the operation was a failure or not. In this case, by an unfortunate chance, I was prevented

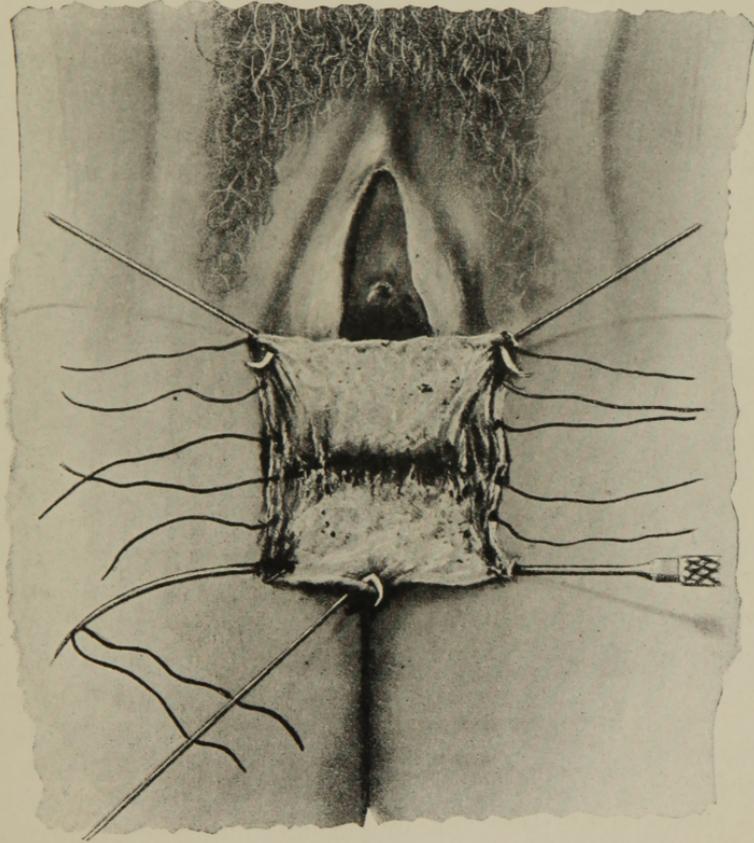


FIG. 23.—Wound and introduction of sutures in flap-splitting operation for lacerated perineum, complete or incomplete.

by illness from visiting the hospital for several days. When I saw the patient again I at once perceived the urgency of the danger, removed the stitches, and disinfected the wound, but unfortunately too late. This was a complete laceration operated upon by the flap-splitting method, and I am inclined to criticise myself for having made too deep incisions which involved too much tension of the sutures and a sloughing of the tissues com-

pressed by them. This should be a lesson not to make these transverse incisions too deep and to be very careful that the stitches do not interfere with the circulation.

It has always been my practice, since I assisted Prof. Gustav Simon in Heidelberg in 1872 in a number of cases of operation for laceration of the perineum, both incomplete and complete, to thoroughly evacuate the bowels before the operation and to keep them moved daily afterward, instead of following the old plan of constipation and first movement on the ninth or tenth day after removal of the stitches. This method of Simon's was not adopted for quite a time, but I believe is now the universal practice among gynecological surgeons; and to it I think are due the recent favorable results after most of these operations. My plan is first to have the bowels thoroughly evacuated, during at least three days before the operation, by laxatives; an enema is given within two hours of the operation, in order to be sure that the lower bowel is entirely empty and does not interfere with the operation. I usually stretch the sphincter and thoroughly before beginning to operate, in order to prevent tenesmus, or I divide it backward with a knife after tying the stitches. Besides I always insert a white rubber tube wrapped with iodoform gauze into the rectum to allow the escape of gas; this is removed when the first alvine evacuation takes place. The patient being kept on fluid diet for three or four days after the operation, it is not necessary to attend to the bowels during that time, but on the morning of the fourth day I usually order a laxative—licorice powder or Rochelle salts—and after that see that the bowels are moved regularly by a mild laxative every day. Enemata should be avoided unless the fecal matter is hard and not easily evacuated, because it is easy to tear open the freshly united sphincter with the nozzle of the syringe. The bladder after perineum operations should be evacuated by the patient herself, if she is able to do so in the recumbent position, each urination being followed by a careful irrigation of the perineum and vagina with plain boiled water, precaution being taken not to interfere with the top stitch. The perineum then should be carefully dried with lint or absorbent cotton and dusted with iodoform, and a thin strip of iodoform gauze placed over it and the legs kept in approximation by a moderately tight bandage. If the cervix has been sewed or the uterus curetted at the same time there may be some discharge from that

organ, which of course should be washed out with warm sterilized water once or twice daily as occasion may demand. After the bowels have been moved the patient's diet can be as she pleases. For at least two weeks the patient must not assume a sitting or erect position, although she may turn on either side *ad libitum*. The stitches are usually removed between the seventh and tenth days, inspection showing that they do not cut or cause edema, when it may be necessary to remove them, all or in part, sooner. I seldom allow a patient after a perineorrhaphy to sit out of bed under two weeks, and if it is a complete laceration usually not under three weeks.

I would say in concluding this subject that it is not, in my opinion, a good plan to do a secondary operation on a lacerated perineum under three months after its occurrence, simply because proper involution of the tissues does not take place much sooner; the parts are still too soft, too vascular, and too easily irritated to favor ready union by first intention. While, therefore, a primary operation for lacerated perineum may be performed within forty-eight hours after its occurrence with a fair chance of success, even at the latter date, a secondary operation should usually be deferred several months. I have noticed much ignorance on this subject among general practitioners, and therefore think it well to emphasize this point. Of course no guarantee can be given that the perineum may not tear again at a subsequent confinement, any more than the cervix after an operation for its repair. When the lacerated perineum is accompanied by a prolapse of the posterior or anterior vaginal walls a different or an additional operation is required. Of this I shall speak later on.

I will make no special reference to the *Diseases of the Rectum* which are mentioned in the report, except to say that they are very commonly associated with affections of the sexual organs, or indeed may simulate such affections, and hence it is well to remember that a woman, if she has pelvic pain which cannot be traced to any appreciable cause within the sexual domain, may be afflicted with some disease of the rectum, such as stricture, ulcer, hemorrhoids, catarrh, which is the cause of the pains complained of. It is usually necessary in order to make a diagnosis to examine the patient under anesthesia, dilate the sphincter, and with the finger or a cylindrical or other appropriate speculum expose the lower portion of the rectum, when it will easily

be seen whether the suspicion of rectal disease is correct or not. There is really no difference in the treatment of the diseases of the rectum in the female from those which obtain in the same diseases in the male. In one respect the female has the advantage, since it is easier to evert the lower portion of her rectum for inspection and treatment than is the case in the male. With two fingers in the vagina, the patient being on the side, the lower two inches of the anterior wall of her rectum can be pushed out through the anus and a fissure, hemorrhoids, or ulceration of that part easily detected. I have already spoken of

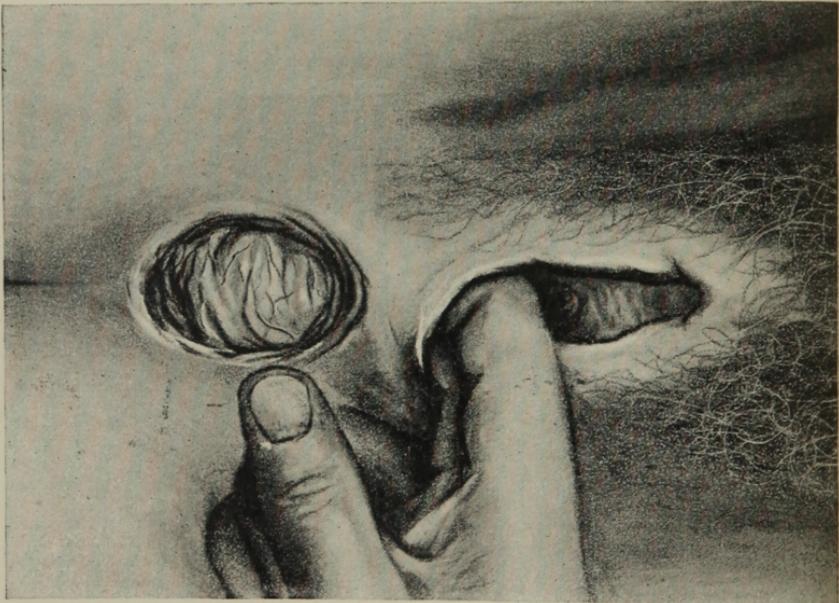


FIG. 24.—Digital eversion of rectum through the vagina. Patient on left side.

the treatment of the diseases of the rectum under a previous heading.

BLADDER. *Urethral Caruncle.*—My treatment for this affection is to expose it thoroughly under anesthesia, draw the tumor down with tenacula, excise it carefully from its base, and, after arresting the hemorrhage by pressure, cauterize it with strong nitric acid. Before using the caustic I usually dilate the urethra thoroughly with a steel two-branched dilator, in order to prevent the common consequence of all operations upon the female urethra—that is, tenesmus. A caruncle of the urethra, if entirely removed and its base cauterized in this manner, should

not return. Incontinence will not follow this dilatation of the urethra, unless it is carried to such an extent as to paralyze the canal, which is not at all necessary.

A *Prolapse of the Urethra* which so closely simulated a caruncle as to be, at first sight, mistaken for it occurred in a girl 9 years of age. Its true character was recognized by the fact that a probe passed into the bladder through the centre of the protrusion and that the latter could be replaced, which of course is not the case with a caruncle. (See Fig. 5.) The treatment consisted in excising all the prolapsed mucous membrane and sewing the raw edges together with interrupted catgut sutures. Result, recovery.

The one case of *Urethrocele* mentioned was operated on by making a buttonhole incision at the lowest portion of the prolapsed urethra, cutting out as much of the redundant mucous membrane as could readily be drawn through this opening, and passing a drainage tube through it and the normal meatus. A cure was effected as soon as the urethral tissue regained its normal condition, when the drainage tube was removed and the fistula closed spontaneously.

A *Fibroid of the Posterior Wall of the Urethra* was met with in one instance. It was easily removed by simply splitting the capsule and enucleating it. It was of the size of a hickory-nut. Its occurrence is exceedingly rare.

Of the cases of vesico-vaginal fistula I have already spoken.

VAGINA. *Imperforate Hymen*.—Strange to say, in all my experience of nearly thirty years I have met with but one case of simple imperforate hymen attended by hematometra and hematocolpos. The diagnosis was so simple that a mere glance at the bulging hymeneal membrane was sufficient. Without anesthesia the membrane was opened and about twenty ounces of tarry blood slowly evacuated. The utero-vaginal cavity was not irrigated, but an aseptic pad loosely applied over the vulva and the organs allowed to return gradually to their normal state. Convalescence was absolutely uneventful. It seems to me not at all necessary to perform this operation under the many minute precautions which were formerly advocated, such as allowing a very slow and gradual escape of the retained blood in order to prevent its possible regurgitation through the Fallopian tubes. This is scarcely likely if the blood is allowed to escape freely through the new opening in the hymen. Only in one other in-

stance did I see an imperforate vagina, and that was where there was a double vagina and uterus, the menstrual blood escaping freely from the left side, whereas on the right side the hymen was closed at a point near the vulva. The protrusion of this portion of the vagina, together with pain on the right side of the pelvis, were the symptoms which called for an examination. The bluish, bulging membrane, together with the bimanual examination and sounding of the left side, rendered the diagnosis fairly easy, and the opening of the occluded sac confirmed it. I excised the whole of the septum and united the raw surfaces

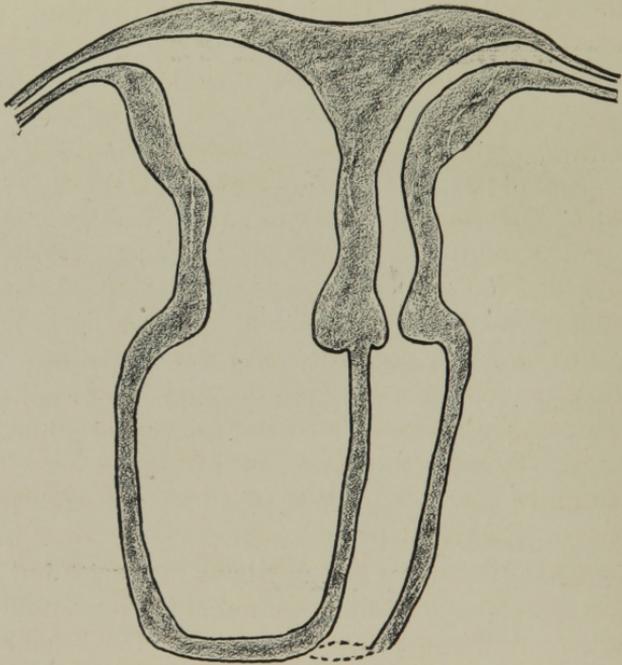


FIG. 25.—Double uterus and vagina. Right side imperforate.

with catgut sutures. A secondary hemorrhage occurred about forty-eight hours later, probably due to a failure to include thoroughly an arterial branch, but it was arrested by tamponade and the patient made a good recovery.

All the cases of *Stenosis* of the vagina were acquired, being due to contraction following parturition. Division and dilatation of the constricted portion readily effected a cure. The cases of atresia were, however, mostly congenital. In two instances the vagina was entirely absent. One was a girl of 21 who had never menstruated nor had she had many menstrual

molimina. Bimanual rectal and vesical examination showed apparently absence of the uterus and ovaries, except a small indistinct body situated in the middle of the cavity of the pelvis. As the girl was very anxious to have a vagina constructed, with the hope that possibly a uterus and ovaries might be found, I acceded to her request and by transverse dissection separated the bladder from the rectum. The small body previously felt turned out to be a rudimental uterus containing about a half-ounce of thick mucus. Its edges were sewed to the newly formed vagina and the canal kept open by Sims' dilators. No ovaries were discovered. When discharged the girl had a respectable vagina. What became of it later on I am not able to say. In the second case the woman was married. She had had a vagina formed by another operator, who had failed to find either uterus or appendages. As neither she nor her husband succeeded in keeping this vagina open, it closed almost completely and I was asked to make a new one. On putting the case before her, however, plainly, and telling her that unless she and her husband kept the canal open it would close again, and that there was no prospect of her ever having a child, she decided not to have anything done and was discharged.

Epithelioma.—While cancerous degeneration of the cervix uteri is exceedingly common as a primary affection, it is quite rare to see the disease develop in the vaginal walls, except secondarily from the cervix. Still, two cases of uncomplicated epithelioma of the vagina came under observation (see Fig. 10). In neither of these cases was the uterus in any way involved. In both the disease was situated on the posterior wall of the vagina. Of course nothing could be done except by the curette and scissors and the actual cautery to destroy the malignant tissue as much as possible. A cure was out of the question.

Colpocystotomy for Cystitis was performed in ten cases. The operation is by no means difficult. It consists in making an incision through the anterior vaginal wall into the bladder about half-way between the symphysis pubis and the cervix. The incision is about an inch in length. Sims' speculum is used and the anterior vaginal wall pushed forward by means of a grooved sound in the bladder. After the bladder is opened the bladder mucous membrane is sewed to the vaginal wall by a running catgut suture, in order to prevent its too early closure. The bladder is then thoroughly washed out two or three times a day,

according to the virulence of the catarrh, with a 1:1000 boracic acid solution or with plain warm salt water. Not until the bladder mucous membrane has entirely regained its normal condition and the urine shows absolutely no trace of cystitis is it safe to close the opening. This event may be deferred for from three to six months or longer. The closure of the opening is quite as simple as its formation. Its edges are pared and the surfaces approximated by wire or silkworm-gut sutures.

Cystocele.—Cystocele or prolapse of the anterior vaginal wall and bladder was operated on in forty-three cases, the operation with one exception being that devised by Prof. Stoltz, of Nancy. This consists in denuding a circular area from two to three inches in diameter on the anterior vaginal wall, encircling it by a stitch of thick silk the ends of which cross each other just below the meatus urinarius. The denuded surface is then pushed inward with the sound and the stitch firmly tied, precisely as the mouth of a tobacco pouch is closed by its string. This puckers the redundant portion of the anterior vaginal wall into the bladder, where it unites and soon shrinks so that it in no way interferes with the functions of either bladder or vagina. The stitch is removed at the end of two weeks or allowed to cut through, there being only one suture to divide just under the meatus urinarius. For this reason this method is particularly applicable to cases where the posterior vaginal wall is at the same time subjected to an operation. In the one case in which Stoltz's operation was not used I employed an elliptical denudation with transverse wire stitches according to Emmet and Sims, the perineum having been sewed at the same time. It was fully a month before I could remove the stitches from the anterior vaginal wall, and within three months the longitudinal cicatrix gradually separated and the cystocele returned as badly as ever. Hence I did not repeat this operation, since my experience with Stoltz's method has been very much more favorable in this respect. The bladder can usually be emptied by the patient herself. If not she should be catheterized; but I much prefer to avoid the catheter, since in this particular operation it seems to be more prone to excite irritation of the bladder than after perineorrhaphy or other operations. I have already stated that I do not employ this operation for cystocele as a rule unless I combine it with the operation for rectocele at the same sitting, because I find that, unsupported by a restored posterior vaginal

wall, even a well-contracted anterior vaginal wall is liable to give way and allow a return of the prolapse.

Posterior Colporrhaphy, or operation for rectocele—that is, prolapse of the posterior vaginal wall and rectum—was performed one hundred and ten times. In the majority of instances the operation was done for this condition only, but in many instances it was performed together with a constricting operation on the anterior wall, perineorrhaphy, trachelorrhaphy, and perhaps Alexander's operation, the indication for this combination being a prolapse of the uterus and vagina. In the

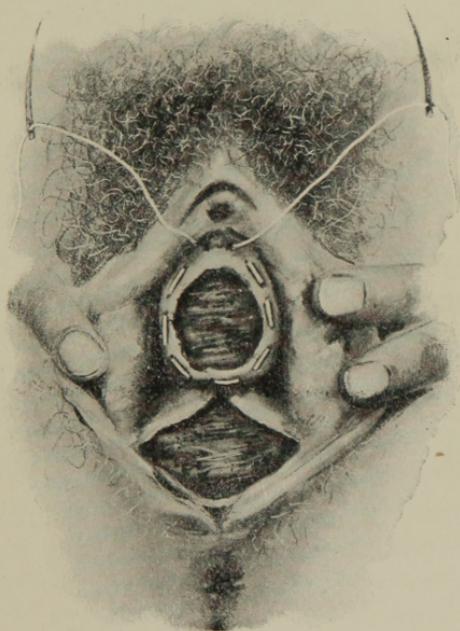


FIG. 26.—Stoltz's operation for cystocele and Hegar's operation for rectocele.

earlier days I used to operate on rectocele by the old butterfly denudation method of Emmet, which is fully described in his text book and all the others who have copied from him. It was a very ingenious, exceedingly well-devised, and all in all successful operation, and I abandoned it only when I saw in Prof. Hegar's clinic in Freiburg in 1886 how much superior his method is to the old process. (See Figs. 26 and 27.) This operation of Hegar consists in making a triangular denudation on the posterior vaginal wall, beginning at a point corresponding to the highest elevation of the rectocele as it is drawn up toward the

symphysis pubis, and ending on either labium at a spot where it seems to the operator best to locate the posterior commissure of the new perineum. The mucous membrane is removed in longitudinal strips until the whole surface is denuded. Then, beginning at the upper angle, by means of a thick catgut suture, which is interlooped and securely tightened before the next stitch is taken, the whole denudation is closed from above downward until the vaginal orifice is reached. Particular care is

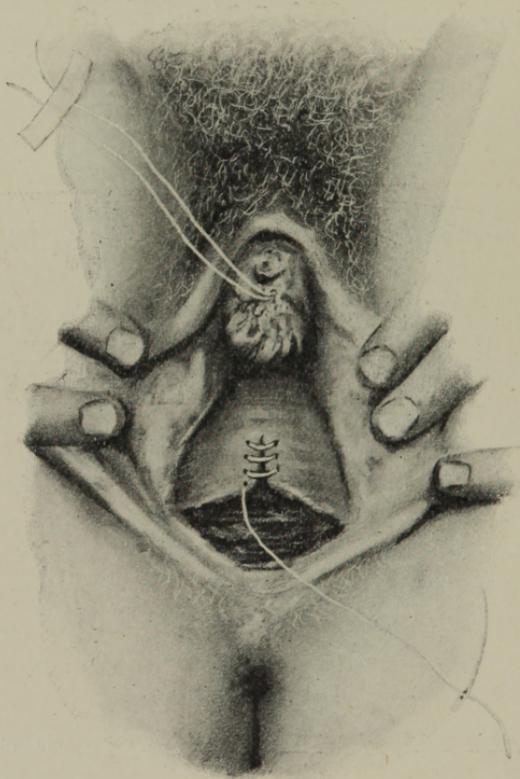


FIG. 27.—Stoltz's and Hegar's operations with stitches inserted in rectocele and suture tied in cystocele.

taken by irrigation and tightening of the stitch to keep the whole surface clean and in good apposition. When the vulvar orifice is reached, with a Peaslee needle a deep suture is passed from labium to labium at the upper border of the denudation, the catgut stitch is held taut and included in this first suture of silkworm gut, which is at once firmly tied. The edges of the remaining portion of the incision, which is now almost entirely cutaneous, are then approximated by a series of deep silkworm-

gut sutures which are intended to catch up the separated fibres of the levator ani muscle. If all has been properly done the perineum is brought up to such a height as to resemble that of a virgin and the posterior vaginal wall is proportionately contracted. The silkworm-gut sutures which are external are usually removed at the end of seven to ten days, the wound being kept thoroughly aseptic by careful irrigation, vaginal and cutaneous, in the interval. It is well to facilitate drainage from the vagina by passing a thin strip of iodoform gauze into the canal at the operation, which can be removed permanently after forty-eight hours. The bladder may be either catheterized or spontaneous urination with subsequent irrigation allowed. The bowels are moved on the third or fourth day. Other treatment like that of ordinary perineorrhaphy. My results with this operation have been so uniformly successful that I now prefer it to any other form of operation for rectocele.

UTERUS. *Laceration of the Cervix.*—I have already said so much on this subject under the heading of diseases that I will only add that my views on this subject remain very much the same as when enunciated by me in an article on "The Indications for the Operation for Laceration of the Cervix" (AMERICAN JOURNAL OF OBSTETRICS, January, 1879), and in the chapter on the same subject in the second edition of my book on "Minor Surgical Gynecology," 1885. I have seen no reason whatever to change my views either as to the significance of the lesion, the indications for its treatment and operative repair, or of the benefits following such operation, during the last ten years. I can safely say that wherever the indication was properly drawn the operation has in every respect answered my expectations—that is to say, when a cervical catarrh, an enlarged, subinvolved or hyperplastic uterus with or without menorrhagia, or a hard, dense, cicatricial cervix called for the operation, I can scarcely remember an instance in which I was disappointed in the results. If trachelorrhaphy is performed for doubtful and obscure reflex symptoms which are supposed, without any sufficient reason, to depend upon the laceration, it is but natural that the results of the operation will often prove disappointing; but this is not the fault of the operation, but rather of the operator. I will not go into details of the operation, having already indicated them in my previous remarks. In itself the operation is not dangerous; but occasionally, owing to the cutting of one

or more of the deep stitches, a branch of the circular uterine artery may become arroded and a secondary hemorrhage occur toward the end of the first week which may prove quite serious and require the insertion of deep sutures to check it. A pelvic peritonitis or cellulitis may undoubtedly follow the operation, particularly if perfect asepsis has not been observed and if too much force is used in drawing down the uterus during the operation. In order to avoid this forcible traction on the cervix I have devised a counter-pressure hook to be used during the introduction of the stitches, which enables me so to steady the cervix as to avoid any severe traction. The other instruments used by me in this operation are long straight or sharply curved, sharp-pointed scissors, strong tenacula, straight or slightly curved sharp cutting needles with a square shank (devised by me), and a Sims or Emmet needle-holder. The suture material is always silver wire, unless the uterus be so prolapsed as to render the cervix accessible at the vulva, when I usually employ thick catgut, which of course need not be removed. According to the hypertrophy of the tissues of the cervix I excise more or less of its substance, sometimes even removing all the hypertrophic tissue on both lips before inserting the sutures; in order to prevent a closure of the cervical canal in such cases I insert a strip of iodoform gauze, which is changed every forty-eight hours until healing is assured. Of recent years I have associated curetting of the cervix and even of the uterine cavity with repair of the laceration of the cervix whenever there was an endometritis present, and have not found my results as to healing of the laceration or a cure of the catarrhal condition of the endometrium any worse than formerly when I was in the habit of first doing the curetting and postponing the operation for the laceration until several weeks later. Of course if these operations are combined it is not possible to apply iodine or another caustic to the endometrium, since it would interfere with the healing of the cervical lesion.

Amputation of the Cervix was performed four times for hypertrophic elongation the result of laceration and prolapsus of the uterus. My plan was first to dissect up the vaginal mucous membrane together with the bladder in front and the rectum behind, if necessary to a point about two inches above the external os, and then to amputate the thus exposed hypertrophic cervix by the galvano-cautery wire or with the knife, having

in the latter case previously passed deep sutures through the vaginal and cervical tissue so as to be able to check hemorrhage promptly after the amputation. I have been exceedingly well satisfied with the results obtained from this procedure in cases of prolapsus. Of course, if there was a prolapse of the vaginal walls at the same time, I have repaired it by the plastic operations already described. In nine cases I amputated the cervix for carcinoma with the galvano-cautery wire, going up as high as possible. In three of these cases, as already stated, a cure is reported, but in the other six I know that a relapse soon occurred.

Curetting for Cancer of the Cervix was performed thirty-four times, and was of course merely a temporary means of alleviating hemorrhage and discharge and possibly retarding the progress of the disease. The sloughs produced by the fifty per cent chloride of zinc pads applied after the curetting of course helped to destroy an additional area of cancerous tissue. I have seen the progress of the disease thus retarded from six months to four years, both the curetting and zinc cauterization having to be repeated at intervals. I have many times seen the hemorrhage entirely arrested by this treatment, the subsequent progress of the disease being slow and proving fatal by its toxic effect upon the general health. Hence I think it my duty to practise this curetting and zinc cauterization in cases where I find it impossible to extirpate the whole diseased tissue, but I never expect a cure from any such treatment.

Curetting for Endometritis offers a very much better chance of a cure, especially if the uterus is swabbed out with a twenty per cent solution of chloride of zinc immediately after the curetting. I have already referred to this subject in this article.

Curetting of the endometrium for Menorrhagia produced by fibroids should certainly be employed whenever the removal of the uterus and appendages does not seem imperative. I have known great benefit to result from the thorough scraping of the endometrium and its cauterization with tincture of iodine or even with nitric acid.

Vaginal Hysterectomy was performed by me eleven times for carcinoma of the cervix. My first operation was done in September, 1884, and was comparatively so easy that I was quite enchanted with the method and read a very enthusiastic article

in its favor before the American Gynecological Society in Chicago in October of the same year.¹ Unfortunately within nine months the disease returned in the cicatrix, although at the time of the operation it was thought to have been thoroughly removed. I am sorry to say that in all the other successful cases of vaginal hysterectomy which I have performed, both in the hospital and in private practice (twenty-six cases), a speedy return has been the invariable rule, so that I am now pretty well satisfied that it is a rare occurrence for a cancer of the cervix uteri to be seen by me early enough to promise success from a complete extirpation of the organ. This may of course be only my misfortune, but I do not see why patients of this class should not come under my observation as early as under that of some of my colleagues who do this operation very frequently and who report excellent immediate and ultimate results. Of the twenty-seven vaginal hysterectomies which I have performed for cancer in hospital and private practice, only three have died from the operation. These were my second and third cases, where I did not appreciate the danger of the hemorrhage from the numerous small vessels wounded when opening the posterior and anterior peritoneal pouches. In both these cases death seemed to be due to loss of blood from this source. My last case, operated on last summer in Hanover, N. H., died of surgical shock, superinduced by excessive previous anemia, but not from loss of blood during the operation. The immediate mortality cannot be said to be so great, being only eleven per cent. In one case, after removal of the uterus, it was found that the rectum was so badly torn by the traction on the uterus, which was adherent to its anterior wall, that it required a very tedious application of catgut sutures to close the rent. The patient, however, made a very rapid recovery and was well for over a year, when the disease returned and she eventually succumbed to it. *I have made up my mind most positively that in no case will I ever again remove the uterus for cancerous disease, whether of the cervix or body, per vaginam or by abdominal section, unless the organ is so movable that any possible extension of the disease to its surroundings can be absolutely excluded.* It is not worth while to remove a cancerous uterus unless one can be positively sure that all the diseased tissue has been excised, even though the patient may recover

¹See Gynecological Transactions, 1884.

without trouble from the operation. I confess that, so far as technical facility is concerned and a better survey of the field, I by far prefer abdominal hysterectomy in Trendelenburg's position for cancer of the uterus to the vaginal method. I have always employed ligatures for the vessels, never having been able to make up my mind that the clamps were reliable as permanent hemostatics.

So far I have not happened to meet with a case where I could conscientiously perform the now so popular operation of extirpation of the uterus per vaginam for diseased appendages and pelvic suppuration. I do not deny that I may see such a case at any time; indeed, I had one in my service last spring, where, after a comparatively simple celiotomy for adherent tubes and ovaries, for some unknown reason, weeks after the recovery of the patient, a diffuse pelvic inflammation with large exudates set in, with the eventual breaking down into pus of one portion of the exudate after the other. As I was about going on my summer vacation, I turned the case over to the assistant gynecologist, Dr. Brettauer, with the remark that if I were to remain on duty I should certainly do vaginal hysterectomy in this case and open all the pelvic sinuses and abscess pockets. Dr. Brettauer performed this operation in two sittings, and told me that he found it exceedingly difficult, the patient almost succumbing from secondary hemorrhage. However, she eventually recovered her health entirely. I do not, therefore, question the justifiability of vaginal extirpation of the uterus for suppuration of the appendages and pelvic tissues in properly selected cases; but my experience certainly leads me to regard such cases as not very common, as rather the exception than the rule in diseases of the adnexa and pelvic inflammations, and I cannot help questioning the judgment of surgeons who report with pride several hundred such operations performed by them during the last three or four years with but trifling mortality. It seems to me that these gentlemen are riding a hobby as fascinating as it is likely to be ephemeral, for I believe some leading German operators (Leopold, of Dresden, for instance), who surely are not timid with the knife, are calling a halt on this indiscriminate and reckless vaginal slaughter of the uterus. A few more years will doubtless put this operation where it belongs—that is, in the position of a most excellent method for diffuse pelvic suppuration which resists less radical measures,

but not to be recommended for chronic endometritis or diseased appendages which can be safely removed by celiotomy.

Removal of Fibroid Tumors per Vaginam was performed twenty-one times when the tumor had become polypoid and dilated the uterine canal sufficiently to permit its being drawn into the vagina by volsella forceps, or when Nature herself had already delivered the tumor into the vagina. Care was always taken, before cutting through the pedicle, to incise the capsule of the tumor as near the uterine wall as possible and enucleate the growth, so as to avoid injuring the uterine tissue proper.

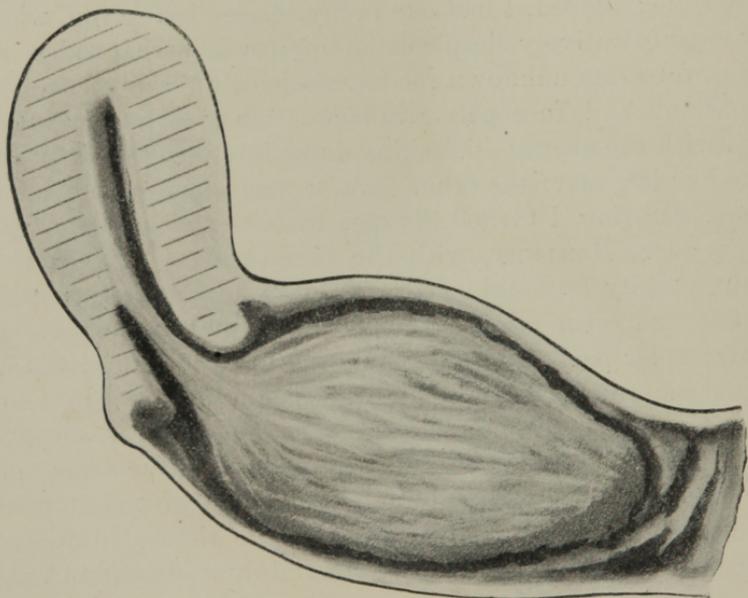


FIG. 28.—Fibrous polypus springing from posterior wall of uterus.

This accident is the more liable to occur, unless this precaution is taken, because the traction used to deliver the polypus usually inverts more or less that portion of the uterine wall to which the tumor is attached. Some of these operations were exceedingly difficult.

In three cases the fibroid tumor was embedded in the tissues of the cervix only and projected deep into the vagina. Fig. 29 shows such a hard fibroid, in a virgin 40 years of age. It was removed with great difficulty by splitting the capsule and enucleating it with the fingers while traction was made on it with

volsella. It weighed two pounds. The vagina and perineum were badly torn, and repaired by a secondary operation. The second case was similar, but the tumor was not quite so large. In the third case the woman was six months pregnant, the membranes were ruptured, and the umbilical cord was prolapsed. I removed the tumor in the same manner, by splitting its capsule, enucleation, and traction. It weighed three pounds. I then removed the fetus and placenta. All three women recovered.

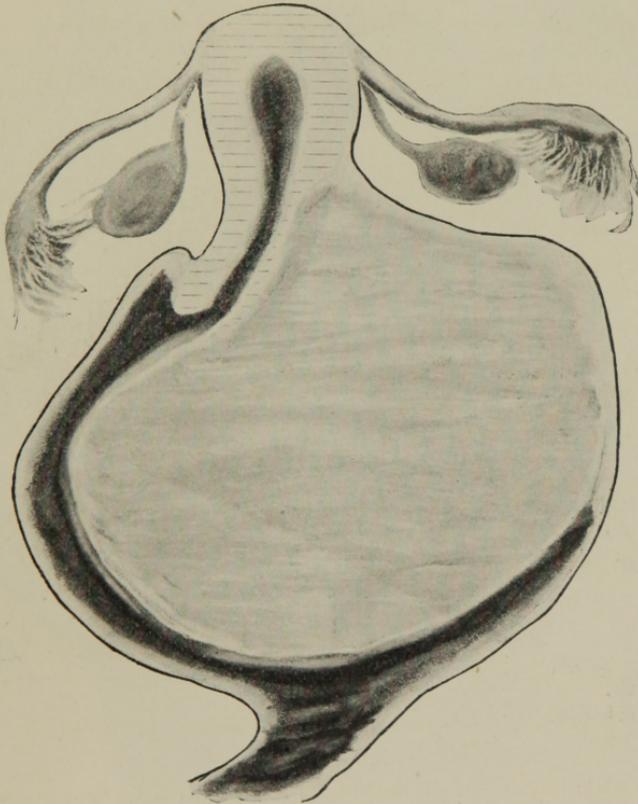


FIG. 29.—Interstitial cervical fibroid removed by vaginal enucleation and traction, weight two pounds.

Abdominal Hysterectomy for Fibroid Tumors of the uterus was performed by me twenty-nine times with four deaths.¹ Until the Trendelenburg position was introduced into this country I always employed the extraperitoneal treatment of the pedicle,

¹ Since January 1st, 1895, I have done three additional abdominal hysterectomies for fibroids, all successful. I removed all but the cervix and closed the abdominal cavity completely, without drainage, as here described.

transfixing it with long pins, ligating it with an elastic ligature underneath the pins, and attaching it to the lower angle of the

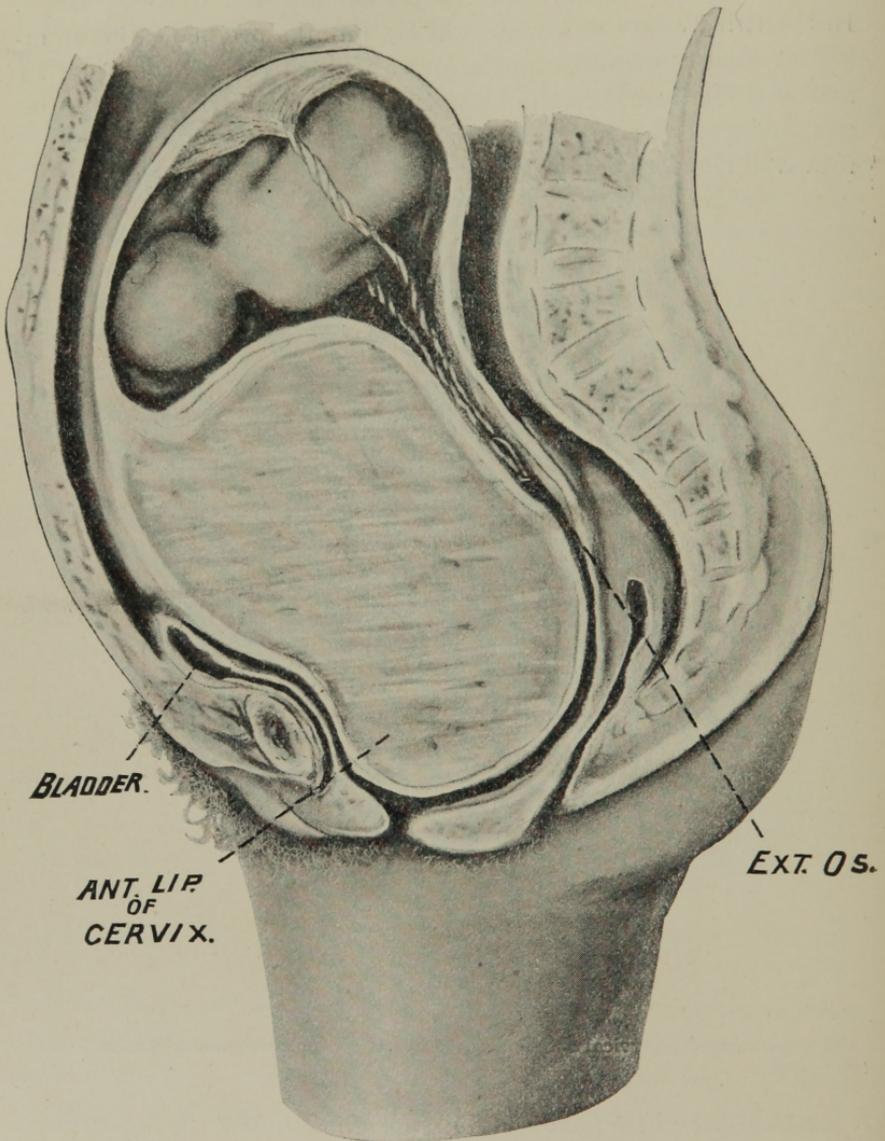


FIG. 30.—Pregnancy at six months. Interstitial cervical fibroid weighing three pounds removed by enucleation and traction.

abdominal wound. The parietal peritoneum was then stitched to the peritoneum of the pedicle below the ligature according to Hegar's method, and the abdominal wound closed. My

results from this operation were very good, but of course it was not the ideal method, and of recent years I have followed the plan I believe first described by Chrobak, but claimed by Baer, Goffe, and other operators in this country. It consists in ligating the ovarian and uterine arteries on either side, freeing the uterus down to the vaginal vault, then separating its peritoneum

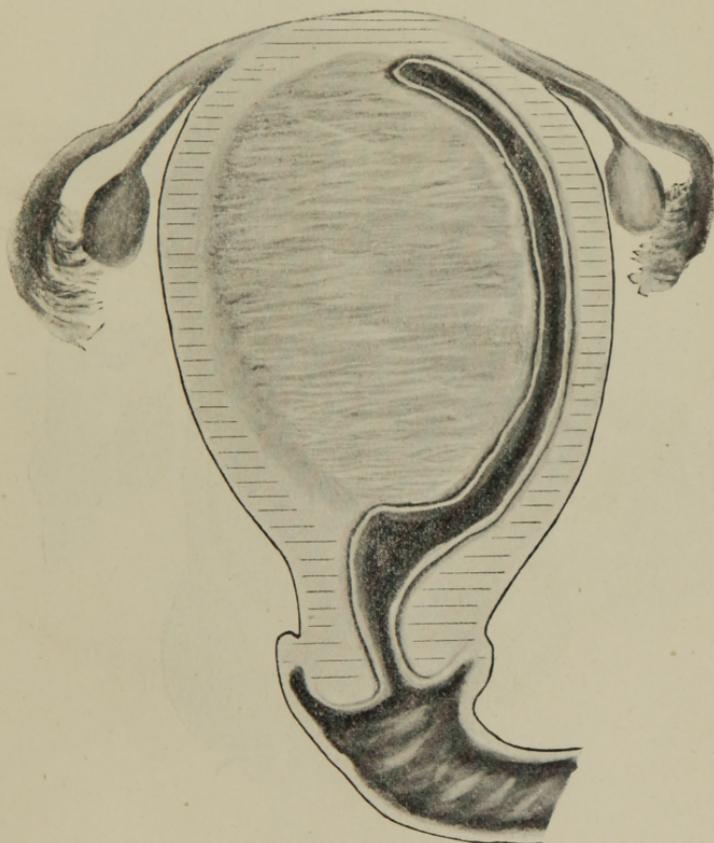


FIG. 31.—Submucous fibroid removed by dilatation of cervical canal with tupelo tents, incision of capsule, enucleation, and traction.

in front and behind down to the pelvic roof, and removing the uterus with the tumor. All ligatures are then cut short, covered with peritoneum, and the anterior and posterior flaps of peritoneum are united by interrupted or running catgut suture. The cervix is cut out, leaving only its shell. Its canal is cauterized deeply with the Paquelin, and then its walls are united with deep catgut sutures and covered with peritoneum. The cervical

cavity is therefore entirely excluded and the abdominal cavity hermetically closed. Of course in such cases there is no drainage downward, and, if the operation has been a clean one and the edges are carefully approximated, there is nothing to drain.



FIG. 32.—Uterus with interstitial and subperitoneal fibroids removed by abdominal section. Extraperitoneal treatment of pedicle.

I have preferred to keep the cervix in these cases, because it seems to me to offer a much better support for the vaginal roof and to be less liable to give way to the superincumbent abdominal pressure than would be a mere linear cicatrix of peritoneum.

Of course there are different opinions on this subject, and I know that the majority of operators prefer to extirpate the whole cervix, often leaving the vaginal roof open for drainage; still I feel satisfied that the method which I have followed is superior to that of complete extirpation. I have twice removed

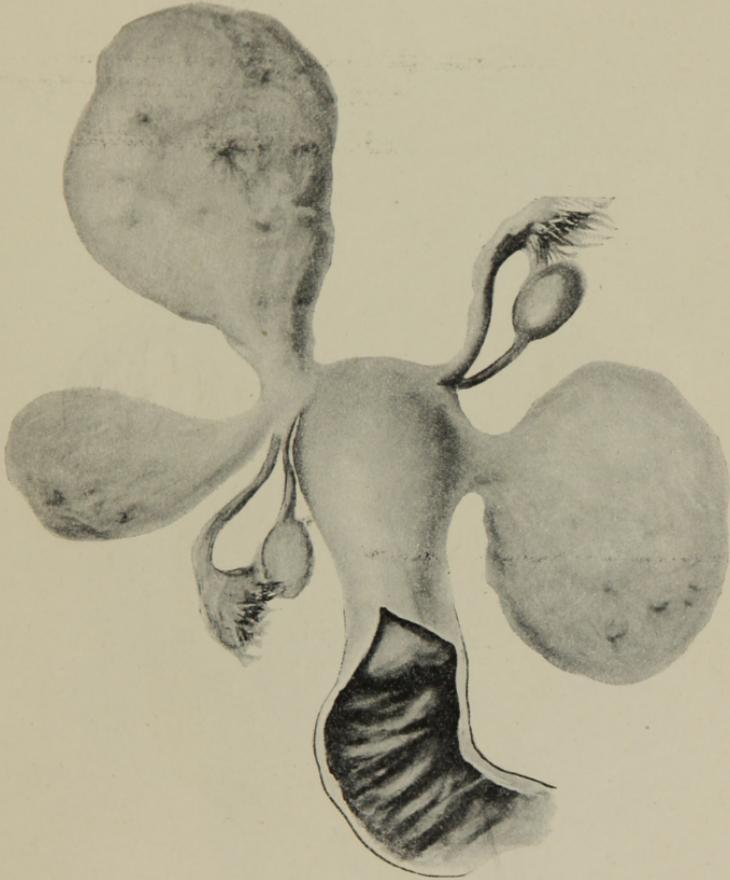


FIG. 33.—Uterus and ovaries with multiple pediculated fibroids removed by abdominal section. Intraperitoneal treatment of pedicle.

the uterus for sarcoma of the body by abdominal section, but in these cases have of course excised the whole cervix.

So far as the indications for removal of the fibroid uterus are concerned, I desire to place myself again on record as holding that only in cases where the tumor produces decided dangerous symptoms, such as rapid increase of growth, pain, pressure on vital neighboring organs, or exhausting hemorrhage which is

not relievable by milder means, is the extirpation of the whole uterus with its appendages justifiable for fibroid degeneration. I think it is wiser to keep cases of this kind under observation

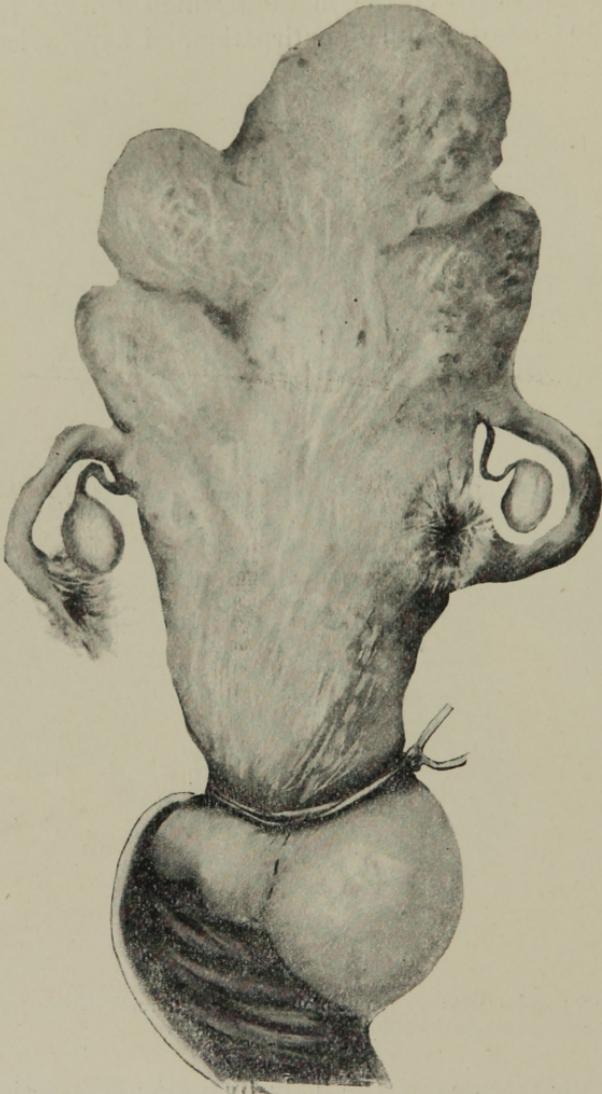


FIG. 34.—Uterus and ovaries with subperitoneal fibroids removed by abdominal section. Elastic ligature; extraperitoneal treatment of pedicle. Lower part of tumor enucleated after removal of upper portion.

for some time and to defer radical operation until curetting, ergot, even that doubtful agent electricity, have been tried in vain. Only when these methods fail and the symptoms become more urgent or signs of peritonitis or salpingitis manifest them-

selves should the question of total extirpation be seriously considered. While subject to exceptions, it is still an axiom, I believe, that fibroid tumors *per se* do not kill, wherein they differ totally from ovarian growths. I am aware that I antago-

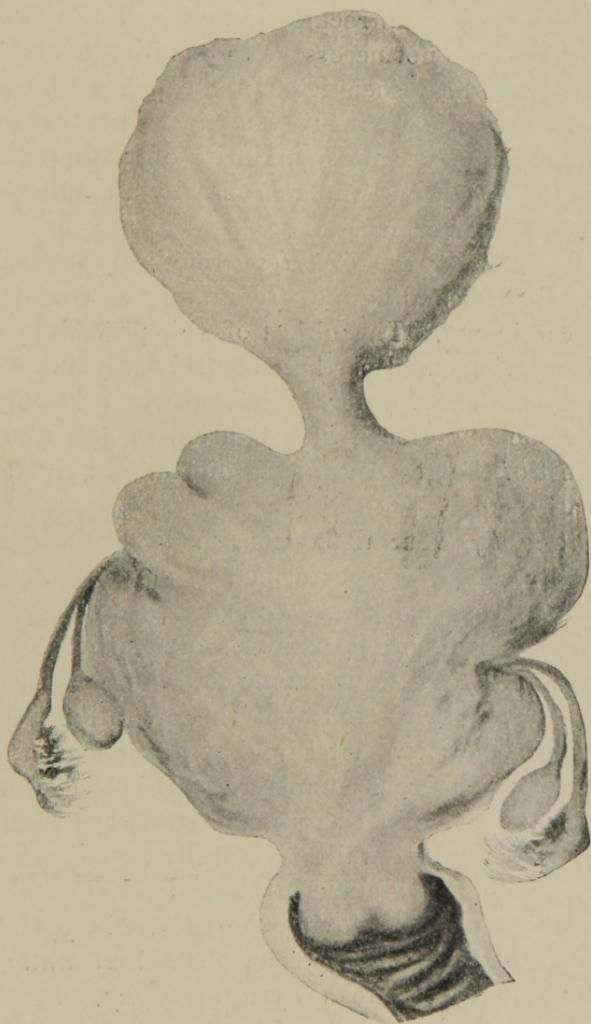


FIG. 35.—Pediculated fibroid and subperitoneal fibroids, removed by abdominal section. Intraperitoneal treatment of pedicle.

nize a large portion of the so-called more progressive members of the gynecological specialty when I make these statements regarding the conservative treatment of fibroid tumors of the uterus, but I feel that my experience is sufficiently large to warrant

me in sustaining my own opinion with quite as much right as do the gentlemen who go so far as to recommend and practise the removal of the uterus and its appendages as soon as a fibroid tumor, even of the very smallest size, is detected. I prefer to stand on my own honest judgment in this matter, rather than to follow the dangerous and reckless practice of the gentlemen to whom I refer. It is not necessary to mention names, since the reports of our medical societies and the pages of our medical journals speak for themselves. The mere fact that our present improved technique permits a majority of such patients to recover from the operation is no reason why an unnecessary operation should be performed.

Ligation of the Uterine Arteries through the vaginal vault has usually been performed by me preparatory to curetting of the cervix for carcinoma. The object of this procedure was partly to arrest hemorrhage and partly to control for a time the advance of the disease. The former indication was certainly fulfilled. I have only one experience with ligation of the uterine artery for the arrest of the growth of a fibroid tumor; it was not particularly satisfactory.

Hysterorrhaphy, ventral fixation, or hysteropexy, as it has been variously called, was performed by me for retroflexion ten times and for prolapsus twice. One of the patients died—a prolapsus case—from apparent paralysis of the heart due to enormous tympanites. As the woman would not have died from the prolapsus, I have always felt that the operation was not justified, and this is the view that I hold of all dangerous operations for chronic, not dangerous complaints. It is of course perfectly easy to open the abdominal cavity and stitch the fundus uteri to the anterior abdominal wall. Naturally the appendages must be healthy. I do not include in these twelve cases all the instances in which, after removing the diseased appendages, I attached the pedicles to the anterior abdominal wall; this I do not consider to constitute a hysterorrhaphy. Several times, however, I detached the adherent appendages and found them sufficiently healthy to permit me to leave them undisturbed, and then I sewed the fundus uteri to the anterior abdominal wall for the purpose of preventing the appendages from again becoming adherent. This I think a justifiable operation, since it is conservative in its results, but I am not in favor of opening the abdomen and attaching a perfectly movable retroverted or pro-

lapsed uterus with healthy appendages to the anterior abdominal wall. Not only that there is a certain amount of danger connected with the operation itself, but in case of pregnancy the attachment of the fundus uteri to the abdominal wall must logically sooner or later interfere with the enlargement of the uterus and bring on a premature delivery. This, at least, was the case in the only instance under my observation where pregnancy followed the operation. Other observers have reported a continuance of pregnancy to term and a normal delivery. I can, therefore, not deny that this may occur, but it would hardly seem to me probable in most of the cases. Besides, it does not seem to me logical to substitute an immovable anteverted or elevated uterus for a movable retroverted one. The operation which I have performed with far greater frequency and better success, and which seems to me logically far more desirable, is that known as

Alexander's Operation for Shortening the Round Ligaments.

—I first performed it in December, 1884, after reading its description by Dr. Alexander, of Liverpool. During the next two years I repeated the operation four or five times. My first attempt was a perfect success, both as regards finding the ligaments and the retention of the uterus in the normal position. In my second and third cases I made partial failures, finding the ligament only on one side. This was my own fault. In 1886 I saw Dr. Alexander do the operation in Liverpool and was maliciously gratified to see that it gave him some trouble to find one of the ligaments. Since then, however, I have done it in all about eighty times, and while I admit its difficulties and some of its disadvantages, I still am as enthusiastic in its favor as I was after my first successful results. There are, it is true, certain very careful details to be observed when searching for the ligament; above all, the spine of the pubes must be remembered as the starting point of the fan-shaped expansion of the ligament, and from this point must the operator proceed if he expects to distinguish and locate the fibres of the ligament. But I can safely say that whenever I failed to find it readily—and that has occurred occasionally even during my riper experience—it was my own fault, and that those operators who have not found it simply have themselves to blame. One very decided objection to the operation, however, is the fact that one never can tell

beforehand whether the ligament will prove to be sufficiently thick to be of service as a means of retaining the replaced uterus in its anteverted position, and, further, it is impossible to foresee when adhesions of the ligament in the Nuckian canal may prevent its ready withdrawal. The danger, therefore, of a ligament either breaking off and retracting or of its being so firmly adherent as to prevent its withdrawal must always be borne in mind. As regards the permanency of the results from this operation, I can safely say that they leave little to be desired. A number of my patients have become pregnant, several more than once, and the uterus has been retained in its normal position after delivery. So far as I know I have seen but one relapse, and that was after an operation for prolapsus uteri (which I do not consider a good indication). I have seen but one case in which the uterus was so sharply anteverted as to interfere with the normal expansion of the bladder; and I make this statement advisedly, as a contradiction of remarks which I have recently seen alleging this to be an objection to the operation. I have followed the plan of causing my patients to wear a lever pessary for several months after the operation, merely as a matter of precaution until the ligaments were firmly adherent. In many instances where the retroversion or retroflexion was accompanied by more or less prolapsus of the uterus together with a cystocele and rectocele and lacerated perineum, and usually with lacerated cervix also, I have restored the parts to their normal condition by a series of operations at one sitting: thus, first, trachelorrhaphy, preceded if necessary by curetting; second, Alexander's operation; third, cystocele; and, fourth, rectocele and perineorrhaphy—the whole cycle occupying from one hour to one hour and a half. I have usually obtained perfect union in these cases and have had no reason to regret the combination of operations. Of course a rest of from three to four weeks in the recumbent position is necessary to assure a thorough and permanent healing of such wounds. My experiences as to Alexander's operation will be found in various articles written by me during the last ten years, such as "Four Cases of Alexander's Operation," 1885; "The Value of Alexander's Operation, etc., estimated from the Results of Twenty-three Cases," 1888; "Ten Years' Experience with Alexander's Operation, etc., sixty-five operations," 1894; from which it will be seen that I

have steadily adhered to the opinions which I at first felt myself justified in holding on this operation.

Prolapse of the Uterus and Vagina was cured in fourteen of the forty cases recorded, by first repairing the usually lacerated cervix, removing as much of the hypertrophic tissue as possible, then shortening the round ligaments by Alexander's method, and finally narrowing the anterior and posterior vaginal walls by Stoltz's and Hegar's operations, respectively, the latter of which also restored the perineum. In twenty-two cases this combination of operations failed to achieve a complete cure, owing to imperfect healing of more or less of the large plastic vaginal wounds or the gradual return of the uterine prolapse. In one case of ventral fixation, already mentioned, death ensued from cardiac syncope, owing to the impossibility to move the enormously distended bowels; and in two cases the operations were refused. The various operative procedures employed for the cure of prolapsus uteri et vaginæ were all carried out at one sitting and are tabulated under their respective headings. I am not an advocate of pessaries for prolapsus, for the simple reason that I know of none which give relief without causing pain or doing harm. Only when the anterior vaginal wall alone is prolapsed, as occasionally occurs even in complete prolapse of the uterus, have I found a large Gehrung pessary to retain the prolapsed vagina and bladder, and therefore necessarily the uterus, perfectly and comfortably within the pelvic cavity. In such cases I have not operated on the cystocele, because I have found the ultimate results of a plastic operation on a cystocele alone to be unsatisfactory, since the pressure on the cicatrix when the patient begins to go about her daily duties is usually so great, when unsupported by the constricted posterior vaginal wall and new perineum, as to cause it to give way and allow the cystocele to return. Hence I prefer to give palliative relief by the Gehrung pessary, rather than perform an operation which experience has shown me furnishes only a temporary cure. Combined with posterior colporrhaphy and perineorrhaphy, however, I have found anterior colporrhaphy an excellent operation, giving permanent relief. In four cases the hypertrophied cervix was amputated, the vaginal walls being dissected up, and the wound closed with deep catgut sutures, before performing the other operations.

TABLE II.
OPERATIONS.

Operation.	Disease.	No.
VULVA.		
Incision.....	Abscess (yulvo-vaginal gland).....	11
Excision.....	Elephantiasis.....	1
Excision.....	Epithelioma.....	2
Removal.....	Polypus of labium.....	1
Clitoridectomy.....	Nymphomania.....	1
		16
PERINEUM.		
Perineorrhaphy.....	Perineo-vaginal fistula.....	1
	Laceration, incomplete, 121; complete, 63...	184
	Phlegmon.....	1
		186
RECTUM.		
	Abscess, ischio-rectal.....	2
	Condylomata acuta.....	3
	Fissura in ano.....	3
	Fistula (recto-vaginal).....	5
	Hemorrhoids.....	8
	Polypus.....	1
	Fistula in ano.....	3
	Stricture.....	3
	Ulcer.....	1
		29
URETHRA AND BLADDER.		
	Caruncle of urethra.....	11
	Urethrocele.....	1
	Prolapse of urethra.....	1
	Fibroid of urethra.....	1
Colpocystotomy.....	Epithelioma of bladder and urethra.....	3
	Chronic cystitis.....	10
	Fistula (vesico-vaginal).....	11
	“ (vesico-uterine).....	2
		41
VAGINA.		
	Atresia and stenosis.....	15
	Cyst.....	1
	Double vagina.....	1
	Epithelioma.....	2
	Occlusion (imperforate hymen).....	1
Anterior colporrhaphy.....	Cystocele.....	43
Posterior “.....	Rectocele and lacerated perineum.....	110
		173

TABLE II.—Continued.

Operation.	Disease.	No.
	UTERUS.	
	<i>Cervix Uteri:</i>	
Trachelorrhaphy	Laceration.....	343
Amputation.....	Hypertrophic elongation.....	4
“	Carcinoma.....	9
Curetting.....	“	34
	Polypus.....	8
		397
	<i>Corpus Uteri:</i>	
Curetting.....	Endometritis.....	243
“	Menorrhagia from fibroids..	12
“	Carcinoma.....	2
“	Retained secundines.....	82
Discission and dilatation...	Stenosis.....	80
Hysterectomy, vaginal.....	Carcinoma of cervix and body.....	11
“	Fibroid.....	1
“	Fibroids.....	29
“	Sarcoma.....	2
Hysterorrhaphy.....	Retroflexion (10) and prolapsus (2).....	12
Alexander's.....	Retroversion and prolapsus.....	73
Ligature of uterine arteries.	Fibroid.....	1
Induced abortion.....	Eclampsia.....	1
Version and delivery.....	Placenta previa.....	2
		516
	OVARIES AND TUBES, AND MISCELLANEOUS.	
Vaginal aspiration, incision, and drainage.	Cyst of broad ligament.....	3
“	Hematoma and hemocele.....	25
“	Pelvic abscess, intra- and extraperitoneal....	39
“	Intraligamentous ovarian cyst presenting deep in vagina.....	2
Celiotomy (median line in- cision).	Cystic ovarian tumor.....	126
“	Solid ovarian tumor.....	2
“	Cyst of broad ligament.....	7
“	Hematoma of ovaries.....	3
“	Carcinoma and sarcoma of ovaries.....	7
“	Acute edema of ovary.....	1
“	Papilloma of ovary.....	3
“	Chronic salpingo-oöphoritis (64), reflex neu- roses (5), fibroids (2) ..	71
“	Hematosalpinx.....	2
“	Pyosalpinx.....	26
“	Ovarian abscess.....	16
“	Tubercular peritonitis.....	2
“	Ectopic gestation.....	15
“	Intestinal obstruction.....	3
“	General purulent peritonitis.....	3
“	Ventral hernia.....	1
“	Sarcoma of the rectus muscle.....	2
“	Displaced kidney (intrapelvic, removed)....	1
“	Perityphlitic abscess.....	3

TABLE II.—Continued.

Operation.	Disease.	No.
	OVARIES AND TUBES, AND MISCELLANEOUS.	
Celiotomy (median line incision).	Exploratory.	10
Laparotomy (lateral incision)	Pelvic abscess, intra- and extraperitoneal.	95
“ “	Abdominal sinus.	12
		397
	OTHER DISEASES.	
	Carcinoma of breast.	5
	Abscess of breast.	1
	Abscess of kidney (nephrectomy).	1
	Abscess of pubes	1
	Abscess of psoas muscle.	1
	Floating kidney (nephrorrhaphy).	1
	Dermoid tumor of nates.	1
	Caries of coccyx.	1
		12
	Total.	1767

TOTAL NUMBER OF OPERATIONS.

On vulva.	16
On perineum.	186
On rectum.	29
On urethra and bladder.	41
On vagina.	173
On uterus: cervix, 397; body, 516.	913
On ovaries and tubes, and miscellaneous.	409
Total.	1767

TOTAL NUMBER OF ABDOMINAL SECTIONS.

Celiotomies (median incision).

Ovarian tumors and cysts of broad ligament.	149
(Ovarian tumors, 128; hematoma ovar., 3; carcinoma ovar., 7; papilloma ovar., 3; edema acut. ovarii, 1; broad ligament cysts, 7.)	
Fibroids of uterus.	29
Sarcoma uteri.	2
Hysterorrhaphy.	12
Intra abdominal shortening of round ligaments.	2
Chronic salpingo-oöphoritis, etc.	71
Pyosalpinx.	26
Ovarian abscess.	16
Tubercular peritonitis.	2
Hematosalpinx (not ectopic).	2
Ectopic gestation.	15
Intestinal obstruction.	3

Celiotomies—(Continued).

General purulent peritonitis.....	3
Ventral hernia.....	1
Sarcoma of rectus muscle.....	2
Abdominal sinus.....	2
Displaced kidney (intrapelvic, removed).....	1
Perityphlitic abscess (appendicitis).....	3
Exploratory (ascites from malignant disease of liver, etc. ; displaced kidney not removed; cancer of intestine, etc.).....	16
	<hr/>
	357

Laparatomies (lateral incision).

Pelvic abscess (intraperitoneal and extraperitoneal).....	95
Abdominal sinus.....	12
	<hr/>
	107
Total abdominal sections.....	464

OVARIES AND TUBES AND MISCELLANEOUS.—It has been for many years a rule of mine that effusions of serum, blood, or pus in the pelvic cavity should be evacuated where the sac points and can be reached the most easily. Hence, in fluid accumulations pointing into the vagina, unless it was intended to remove the whole sac, as in the case of ovarian tumors, it was usually thought best to ascertain the nature of the fluid contents in the sac by aspiration through the vagina, and, if the diagnosis of fluid contents proved correct, to open the sac by this channel, evacuate and drain it. In short, I have always felt that it was a much safer plan to open and drain all pelvic accumulations of fluid which could be reached most easily through the vagina by that channel, rather than to open the abdominal cavity from above and take my chances of being able to enucleate and extirpate the whole sac or sew its edges into the abdominal wound. Comparatively speaking, the opening of an intraligamentous ovarian cyst or effusion of blood or pus, or even of a pyosalpinx or pus-ovary which has become firmly attached to the bottom of Douglas' pouch and is embedded in adhesions, is a very much less serious operation, which usually results in a gradual closure of the sac and a complete recovery, than to attempt to accomplish the same object by an intraperitoneal operation from above. For this reason I have opened and drained per vaginam three cases of cysts of the broad ligament, twenty-five of encapsulated pelvic hematocoele and of hematoma of the broad ligament, thirty-nine of true

(extraperitoneal) or false (intraperitoneal) pelvic abscess, and two of intraligamentous ovarian cyst, with scarcely a fatal result. *It is an absolute condition for the feasibility of this method that the fluctuating sac should protrude into the vaginal canal and be easily reached from below; further, that, unless it is intraligamentous, a firm adhesion should exist between its walls and those of the bottom of Douglas' pouch, as may be the case in pyosalpinx or ovarian abscess.*

Hematoma of the Broad Ligament, as I have already stated, is probably in a majority of cases due to the rupture of a tubal pregnancy which happens to have taken place between the layers of the broad ligament instead of into the free peritoneal cavity. This diagnosis is, of course, more or less obscure, and can rarely be verified because both the fetus and the chorionic evidences are not always recognizable even under the microscope. Be this as it may, whatever the origin of the intraligamentous hemorrhage, when the effusion is large, has persisted for several weeks, and there is no evidence of its absorption, it is better to open the sac per vaginam, evacuate it (which can be done with the finger or with a large blunt curette in order to break down the old coagula), and then thoroughly clean it by irrigation. A rubber drainage tube should be then inserted and the vagina loosely packed with iodoform gauze. In the course of a few weeks under irrigation and drainage the cavity will contract, and in at least ninety-nine cases out of a hundred the convalescence will be uneventful.

I seldom operate on an intraligamentous ovarian cyst by vaginal puncture and drainage, but at times the general health of the patient does not admit of a protracted and difficult intra-abdominal operation; besides, in small intraligamentous ovarian cysts it is impossible to draw up the layers of the broad ligament so as to be able to stitch them to the edges of the abdominal wound and thus shut off the general peritoneal cavity. The danger of rupture of the posterior layer of the broad ligament, and therefore the impossibility of thus shutting off the peritoneal cavity, is one of the great risks which we run in attempting to remove intraligamentous ovarian cysts by a median abdominal incision. In cases where, therefore, this risk seemed imminent, I have attempted to overcome it by opening the cyst per vaginam; and while I have seen one death from secondary rupture of a large vessel embedded in the wall of the

cyst, I have succeeded in curing one case which I really believe would have died from septicemia or peritonitis if I had attempted to operate from above. It must be left to the judgment of the operator to select the method of operation in each individual case.

By true pelvic abscess I mean an accumulation of pus outside of the peritoneum—that is, within the pelvic cellular tissue. I have already said that it is impossible always to say whether such an abscess was originally extraperitoneal or not. It might have been a pyosalpinx, or an abscess of the ovary, or accumulation of pus in Douglas' pouch, but by adhesions of its surrounding parts, notably the intestines, it has become practically extraperitoneal. It points into the vagina; fluctuation can be felt there. It does not extend close to the anterior abdominal wall, although the brawny, hard mass may be felt by bimanual palpation; but evidently the nearest point of approach is through the vaginal roof. Hence, whether the abscess be originally extra- or intraperitoneal, when I am sure that it is securely fixed in the pelvic cavity, is not movable, and can best be reached through the vagina, I have always made it a rule to open it through this channel, first having satisfied myself of the presence of pus by careful aseptic aspiration. My method has been precisely the same as in cases of cysts of the broad ligament or pelvic hematoma—namely, to introduce a pair of sharp-pointed, long-bladed, straight scissors into the sac, open them as soon as they have penetrated into the cavity, and introduce between their blades a blunt two-branched dilator. The scissors are then withdrawn so as to avoid any accidental injury from their points, the dilator is opened widely, and the sac washed out with a hot Thiersch's solution. If the contents are very offensive a 1:10,000 bichloride solution is used instead. A white rubber drainage tube, properly perforated, with a cross piece to prevent its slipping out, is inserted and the vagina loosely packed with iodoform gauze. So far as I can recollect, only one of the thirty-nine cases of pelvic abscess thus treated died; all the rest recovered in the course of a few weeks under proper irrigation and drainage. Of course I do not intend to presume that such abscesses can be permanently cured by this method so long as the suppurating cavity is allowed to remain. If, therefore, the purulent discharge persists for several weeks, curetting of the cavity with injection of tincture of iodine or

carbolic acid may be necessary. I think this necessity, however, will rarely occur. I have found sinuses resulting from these intrapelvic sacs which are opened per vaginam to be much less obstinate in closure than those which remained after the suprapubic opening of pelvic abscesses, probably on account of the better drainage through the vagina. I can remember but one case where, after a protracted drainage of an adherent pyosalpinx per vaginam, some years later the removal of the sac was called for by its persistent refilling and discharging.

Celiotomy—that is, the opening of the abdominal cavity through the median line—was performed three hundred and fifty-seven times. In one hundred and twenty-eight cases the indication was the removal of an ovarian tumor. I but repeat the universally accepted practice among gynecologists nowadays when I say that an ovarian tumor, whether solid, fluid, or composed of both elements, should be removed by abdominal, or if small vaginal, section as soon as it is detected. Even an ovarian cyst of the size of a hen's egg had better be removed in this manner, as it is sure to grow, rather than to allow the patients to take the chances of the various accidents which may occur to it before it produces decided deleterious symptoms. Every ovarian tumor from the very inception of its growth is liable to become adherent to neighboring organs, to undergo inflammatory changes in consequence of a twisting of its pedicle, and even to experience a rupture and escape of its contents into the general peritoneal cavity with the result of more or less acute peritonitis. The more extensive the adhesions, the more friable the walls and contents of the cyst, and the larger the tumor, *ceteris paribus*, unless its contents be entirely fluid, the more difficult and dangerous will probably be its removal, and any one or all of these results may be expected in the course of time in the majority of ovarian tumors. The more fluid the contents of the cyst, the smaller the opening through which it can be removed and the more easy and less dangerous the operation. As is common in hospital practice, quite a number of these cases of ovarian cyst did not apply for admission until an operation could no longer be postponed; they were therefore not always in as good physical condition as could have been desired. Several times, indeed, the operation was performed as a last resort, and, proving exceptionally difficult, the patients did not long survive it. In forty cases the right ovary alone was the seat

of the tumor, in fifty-four cases it was the left ovary, and in thirty-four cases both ovaries had undergone degeneration. In thirteen cases the cyst was intraligamentous, one of the most unfavorable positions for operation; seven times cancer and three times papilloma of the ovary with general ascites were the indication for the operation, an explorative incision being the means of assuring the diagnosis.

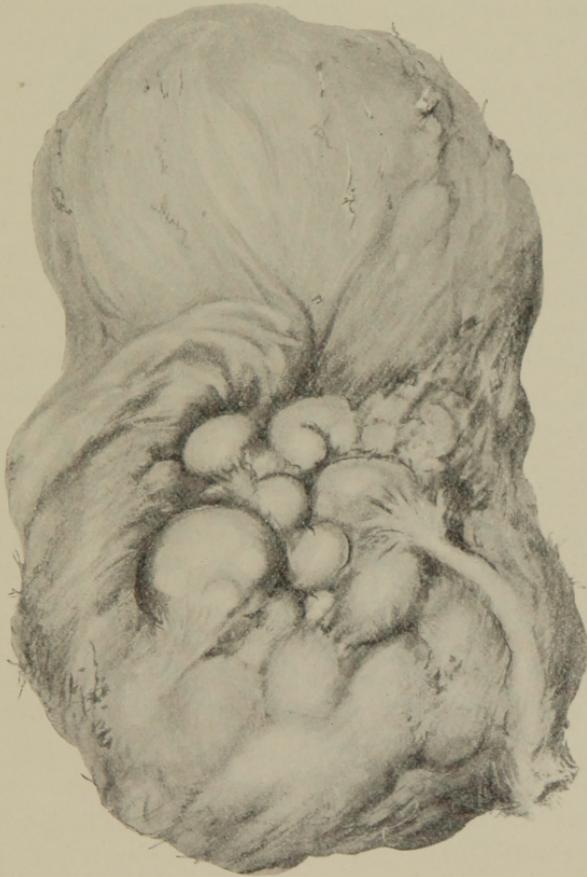


FIG. 36.—Polycystic tumor of right ovary, weighing forty-six pounds. Numerous adhesions. Recovery.

Torsion of the Pedicle.—In twenty-three cases the pedicle of the cyst was found twisted, this twisting being the indication for a speedy operation. It is curious that the pedicle of an ovarian cyst may be twisted even two or three times, so as to shut off almost completely the circulation of the cyst, and still

there are no decided constitutional symptoms, but very slight temperature, some pain, it is true, and occasionally a chill; but most of these patients are up and about, and would not have been supposed, judging from their appearance, to be suffering from an abdominal condition which might at any time cause their death—I mean that at any moment the black, semi-gangrenous



FIG. 37.—Torsion of pedicle of cyst of right ovary. Cyst attached to left abdominal wall. Recovery. (Diagrammatic.)

ovarian cyst might rupture and general peritonitis ensue. Curious to say, in none of the cases which I have observed did this occur, and I presume this immunity can be explained by the fact that the walls of the ovarian cyst became agglutinated to neighboring organs and were thus more or less perfectly

nourished. In some of the cases, indeed, nutrition through the pedicle was absolutely out of the question, since it was so tightly twisted as to entirely interfere with circulation; in one instance the pedicle was at least six inches long and as thin as a piece of twine and quite as bloodless. In these cases, of course, nutrition of the cyst took place through the adhesions. With one exception all these twenty-three cases recovered. In ten instances the right ovary was at fault, in thirteen the left. The direction of torsion was almost invariably from the affected side—that is, if it was a cyst of the right ovary the twist was toward the left; if of the left ovary, toward the right. Thus was accounted for the fact that the ovarian cyst in these cases was usually found on the side of the pelvic or abdominal cavity opposite to that from which it sprang. The causes of this twisting of the pedicle of ovarian cysts are not entirely clear, but it is probable that the normal peristaltic movements of the intestine, together with habitual or accidental changes in the position of the body, are instrumental in turning the axis of the pedicle upon itself. Only comparatively small ovarian cysts are for obvious reasons liable to this accident, and I have made up my mind that whenever an ovarian cyst not larger than a cocoanut or an adult head causes more or less acute pain with variable degrees of elevation of temperature, such symptoms are very probably due to a torsion of the pedicle and an inflammation of the cyst. The indication for early removal of cysts with such symptoms is therefore sufficiently apparent.

In the case represented in the illustration the cyst was situated high on the left side of the abdomen and was apparently not connected with the pelvic organs. Its true nature was uncertain, and the incision was therefore made directly over it instead of in the median line. Only on opening the peritoneal cavity did I recognize that it was an ovarian cyst which was completely attached by fresh adhesions to the parietal peritoneum. Peeling the cyst loose, I evacuated its contents and drew it out of the incision. Its long, thin, entirely bloodless pedicle then appeared, and, before I could prevent it, broke a few inches from the right horn of the uterus, from which side it sprang. There was no bleeding whatever from it. The appendages on the other side were adherent and removed. Recovery uneventful. (Fig. 37.)

Dermoid Cysts of the Ovary occurred in twenty-five cases, ten being of the right, ten of the left ovary, and five of both ovaries. The contents of dermoid cysts of the ovaries are well known to be hair more or less matted or developed, usually of a blonde color, teeth more or less well developed, and bone embedded in the walls of the sac, together with a peculiar pea-soup fluid. Whether these cysts are an embryonic formation produced by the accidental inclusion of the external blastodermic membrane with the formative elements of the Wolffian body



FIG. 38.—Balls of fat from dermoid cyst.

and therefore of the ovary, or whether they are the result of a formative degeneration of the elements of the ovum, is a question still to be decided. They certainly contain tissues which pertain to the embryo, and a natural supposition would be, and has for many years been, that they were the result of a blighted conception or a probable ovarian pregnancy. This, however, is now well known not to be the case, since they have been found in young children and in virgins of different ages, entirely irrespective of any approach of the other sex. These tumors are

simply a freak of Nature and may occur in other portions of the body, but the ovary in the female and the coccygeal and thyroid regions in the male are the favorite spots of selection. According to my experience dermoid cysts of the ovary may remain dormant for a number of years, finally springing into activity at three chief periods of life: first, that of puberty; second, that of marriage; and, third, that of childbirth. Each of these different periods seems to exert a stimulating influence

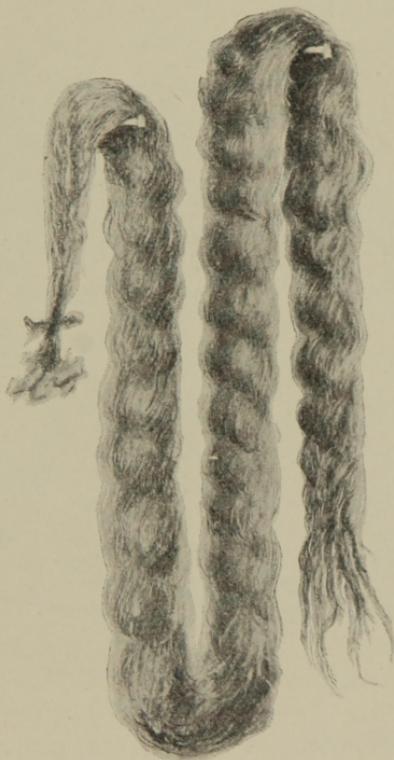


FIG. 39.—Switch of hair, five and a half feet long, from dermoid cyst.

upon the growth of these tumors. One of their peculiar features is that at a very early period, when the tumor is not larger than an egg or an orange, it gives rise to pain and evidences of inflammation which are not common in the ordinary ovarian cysts. When I therefore find small ovarian tumors causing pain and more or less rise of temperature, I am inclined, as I have already stated, to attribute these symptoms to a twisting of the pedicle, and, if the tumor has a solid feel, am frequently

disposed to add to this the diagnosis of a dermoid tumor. Dermoid cysts are usually supposed to be unilateral, but I have seen in the hospital five cases of double dermoids and several more in private practice, in one of which there was even pregnancy in the fifth month, although the ovaries were so degenerated by the dermoid disease as to seem to be entirely incapable of the production of ova. In two instances I have witnessed very peculiar contents of dermoid cysts, the one

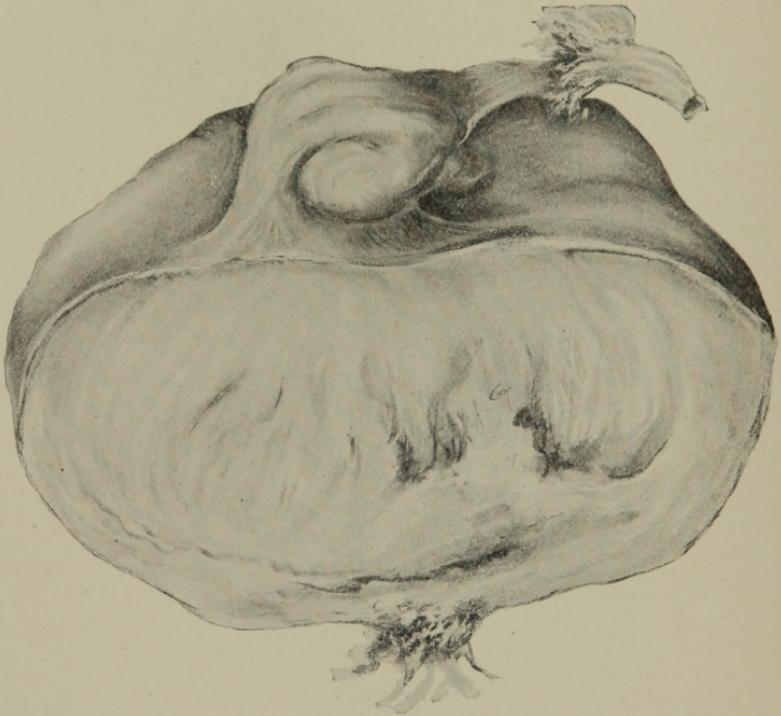


FIG. 40.—Solid tumor of ovary, weighing one and a half pounds. Recovery.

being numerous small buttons of sebaceous matter, each containing a hair, and the other that of a development of hair which is almost unique in medical literature. The cyst was removed from a virgin 41 years of age, the other ovary containing hair, teeth, and bones, but in a much less marked degree. The tress of hair which is shown in the cut was closely matted together and surrounded by a small amount of thick pea-soup fluid. On dissolving the sebaceous material in ether the hair became clean, and, after suspension, now measures nearly seven feet in length.

All this mass of hair sprang from one small nipple inside of the cyst not more than an inch in diameter. I cannot determine whether all the strands of hair extend to the whole length of the switch, because they are so matted together that it is impossible to properly isolate it. It is of a dark blonde color and as perfect in formation as the hair of the female head, but perhaps a trifle finer.

I have seen but two *Solid Tumors of the Ovary* which I was able to remove (see Fig. 40). Several others which I diagnosed as such have come under my observation but did not submit to an operation. The one represented in the cut was from a young single lady from the South, in whom I was for some months in doubt as to whether the hard, movable mass in her abdomen was a pediculated fibroid of the uterus or a solid ovarian tumor. The pain finally induced me to decide upon an abdominal section, when I found that the mass was a solid tumor weighing a pound and a half and springing from the left ovary, the hilus of which was still visible at the base of the tumor. Finding the other ovary slightly cystic, I exsected the cystic portion and closed the wound with catgut and dropped it back. The patient made an uneventful recovery. Solid tumors of the ovary are so rare that Spencer Wells, I believe, records only two instances in over a thousand ovariectomies.

Of my one hundred and twenty-eight ovariectomies for cystic disease eleven died. I do not think that this rate of mortality (about 8.7 per cent) is too great under the circumstances, considering the various disadvantages which pertain to operating on such cases in a general hospital, to which I have already referred in my introductory remarks, and the desperate condition of some of the cases when admitted.

Of the seven cases of *Carcinoma and Sarcoma of the Ovary* I am sorry to say three died; but that can hardly be a matter for surprise, since the ultimate result was a foregone conclusion. Of the three cases of papilloma of the ovary also associated with ascites two recovered. It must be understood that papilloma is not a malignant disease in itself, becoming so only in course of time. It usually produces general ascites from the irritation of the rapid growth of the tumor on the neighboring peritoneum, but if removed early and entirely it is quite as curable as any other ovarian tumor. When, however, the papillomatous growths have already encroached upon the parietal or

visceral peritoneum separate from the ovarian tumor, and are therefore not removable with any degree of certainty, the prognosis as to the return of the growth, not in the original site but on the peritoneum, is not so good, and subsequent operations usually fail to effect a permanent cure. The patient who died succumbed to the drain upon her general health before the operation. In one instance I performed four abdominal sections on the same patient—two in 1887, both being exploratory, since it was found impossible to remove the growth, which involved both ovaries, the uterus, bladder, and rectum. For five years the patient remained in perfect health, and then the original

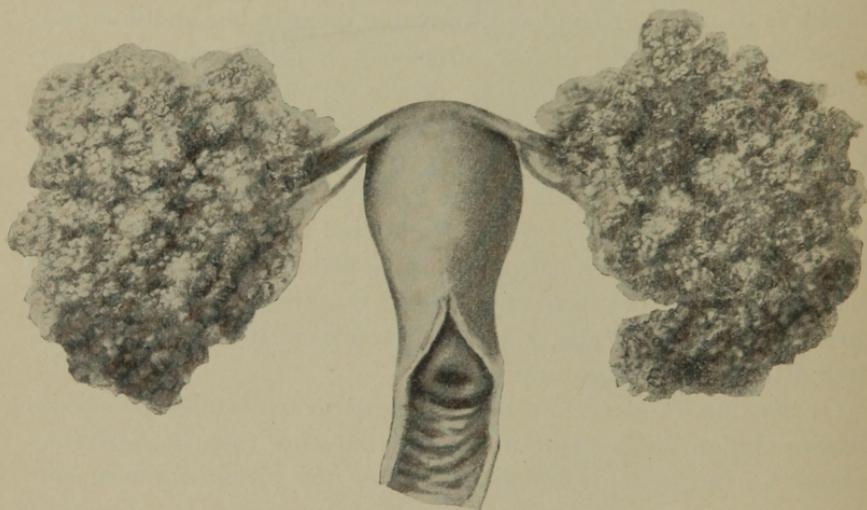


FIG. 41.—Papilloma of both appendages. Recovery.

papilloma, which had been quiescent all this time, broke down and formed a foreign body with firm walls of adhesion. A fistulous opening through the old incision enabled me to insert my finger into the sac and make the diagnosis. I removed all of the papilloma which I could with my fingers and packed the cavity with iodoform gauze. During convalescence a coil of intestine which had become closely adherent to the upper portion of the sac and near the upper angle of the wound opened and a fecal fistula was established, which healed in course of time after another operation. The patient has since drifted out of sight. The difference in diagnosis between papilloma of the ovaries with ascites and carcinoma of the ovaries with

ascites is that in papilloma there is comparatively little general cachexia, although physically the signs may be almost identical. Of course it is impossible to differentiate between these two conditions until the abdomen has been opened; and, indeed, it is often difficult to decide, without a microscopical examination, whether the peculiar cauliflower growth of the ovaries is malignant or papillomatous. If not removed thoroughly and at an early date, a papilloma, as already said, is sure to become eventually quite as malignant as if it were originally of the carcinomatous type.

Intraligamentous Ovarian Cysts—that is, those which develop between the layers of the broad ligament instead of growing away from the attachment of the ovary—are by far the most disagreeable, difficult, and dangerous pelvic tumors which I have found it my duty to operate upon. In the first place, the diagnosis is often exceedingly difficult. The pelvic cavity is occupied by a tense, more or less solid tumor which pushes the uterus upward and forward or to one side. The vaginal vault is more or less obliterated by the tumor growing down into the pelvic cavity, and the abdominal wall is more or less distended by the growth, according to its size. The uterus is immovable, and one gets the idea that the tumor is more or less closely connected with that organ. At the same time we have the general cachexia peculiar to ovarian cysts in the advanced stages. If the tumor is so large as to visibly distend the abdomen an abdominal section is indicated, since it can scarcely be thoroughly treated or removed by a vaginal opening. If the enveloping layers of the broad ligament are sufficiently thick to permit of their secure attachment to the abdominal incision, all is well; but if they are friable and easily broken down it is absolutely impossible to separate the cavity of the cyst from the general abdominal cavity, and we are then obliged to remove by enucleation as much of the sac of the tumor as we can, stitch such of the broad-ligament tissue into the wound as still remains unbroken, pack the pelvic cavity with iodoform gauze, partially close the abdominal wound, and trust that the reparative efforts of Nature will do the rest. Unfortunately sloughing of the brittle and torn portions of the broad ligament not infrequently results, and septicemia and general peritonitis bring on a fatal termination. I am sorry to say that of the thirteen cases of intraligamentous cyst of the ovary which

I find recorded in this report, five died from these very causes. Of the two others which were operated on by vaginal incision and drainage one died, making fifteen cases with six deaths. The percentage of recovery will thus be seen to be about equal for either method. Still, during 1894 I operated by celiotomy on a desperate case of suppurating ovarian cyst of the right broad ligament, which had not been diagnosed by the former physicians, by enucleating the whole pus sac, stitching the broad ligament into the wound, and packing it with iodoform gauze. In four weeks the woman was well. This case was certainly a triumph for the abdominal method.

A Cyst of the Broad Ligament was operated upon by me by abdominal section in seven cases. Such cysts indeed are not very common. They produce comparatively no symptoms, grow very slowly, seldom affect the general health of the patient, and come under observation only because their increasing size attracts attention. It is not always easy to differentiate between them and an ovarian cyst. As a rule, being situated between the layers of the broad ligament, a cyst of the parovarium grows more downward into the pelvic cavity, and only when it has attained considerable size becomes apparent through the abdominal walls. This prominence of growth into the pelvic cavity, its situation to one side of the uterus entirely—which organ it has pushed upward and to the other side—the immobility of the cyst, its evidently unilocular character, and finally the perfectly clear, limpid appearance of the fluid removed by aspiration, will usually serve to make the diagnosis of broad-ligament cyst perfectly clear. These cysts seldom attain a greater size than that of a uterus at six months of pregnancy. I have met with one case, however, in which the cyst contained thirty-eight pints of fluid. Being intraligamentous, these cysts have the disadvantage of possessing no pedicle, and in removing them through a median abdominal incision it is therefore necessary to first sew the broad ligament to the edges of the abdominal wound, then to open the cyst and enucleate its sac entirely from its bed in the pelvic cellular tissue. If this is not easily possible it is better not to insist upon it, but to pack the cavity with gauze, as should be done after complete enucleation of the cyst, and to trust to the gradual closing of the cavity by contraction and granulation. This is usually a matter of some weeks' or even months' duration, but such cases almost without excep-

tion terminate favorably. As I have already said, I prefer

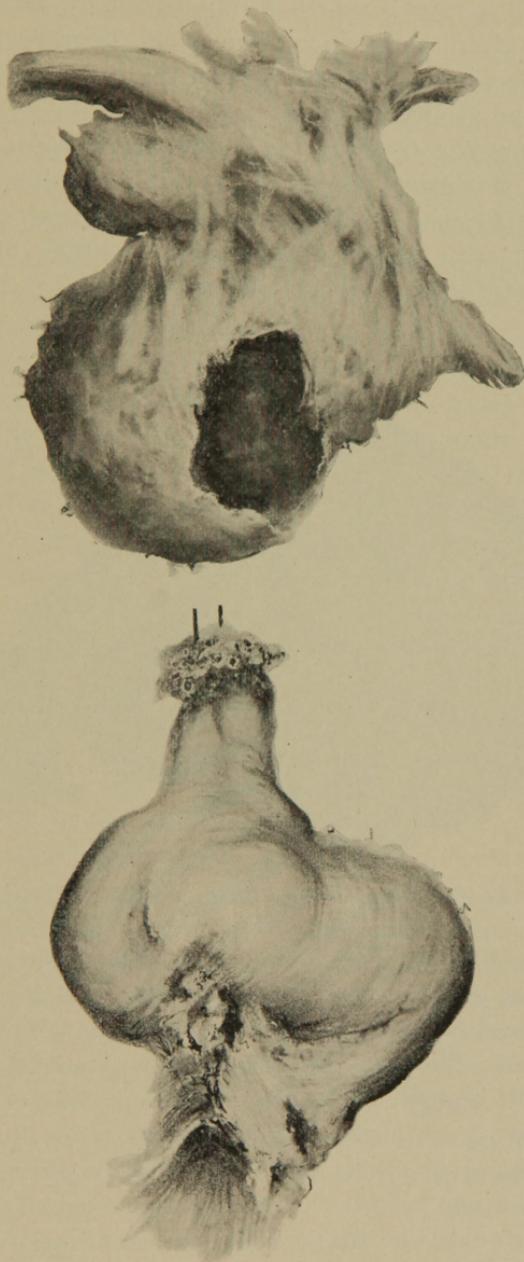


FIG. 42.—Double pyosalpinx; double ovarian abscess, with rupture on right side during removal. Recovery.

opening cysts of the broad ligament through the vagina, if they

point pre-eminently in that direction, since the risk is much smaller and it is hardly worth while to expose patients to any great danger from removing these cysts, because they by no means have the deleterious effect upon the general health which is so distinctive of ovarian cysts.

Hematoma of the Ovaries was found three times on opening the abdomen, the exact diagnosis of this condition not having been made beforehand. The operation was performed solely for persistent pain in the ovarian region which had failed to yield to all treatment. Bimanually no evidence of a distention

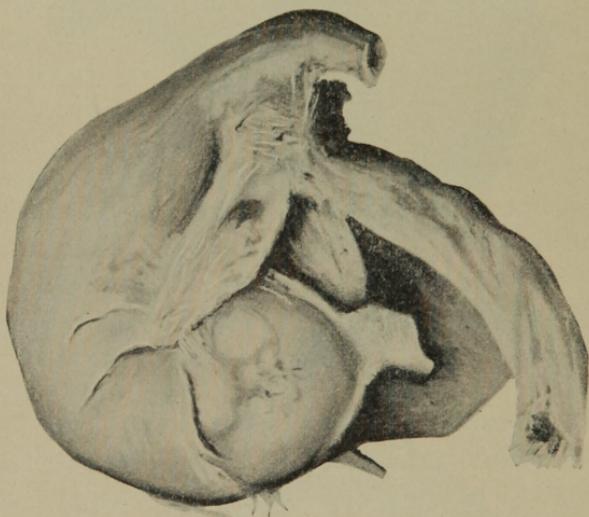


FIG. 43.—Ovarian abscess ; rupture during removal. Universal adhesions. Recovery.

of the ovary could be felt, which was doubtless due to the fact that the sac in each instance was not fully distended, but was flaccid and could no more be felt through than could coils of small intestine. The sacs in each instance were about the size of a mandarin orange, completely adherent, but easily enucleable. Rupture took place each time, but recovery was uninterrupted, the pelvic cavity being thoroughly washed out with Thiersch's solution before closure. In one case I employed a glass drainage tube, but found it unnecessary in the later cases. All recovered.

Abscess of the Ovary, more or less connected with inflammatory disease of the tube, was operated on by celiotomy in sixteen cases, with fifteen recoveries. (See page 32.)

Celiotomy for Chronic Inflammation of the Ovaries and Tubes together was performed seventy-one times. It must be understood that in these cases of so-called chronic salpingo-oöphoritis the tube is usually the chief feature in the case, the inflammation having been transmitted from the endometrium to it and the pathological changes being confined usually to it. The ovary is only involved secondarily and may in many cases be practically perfectly healthy. Both ovary and tube are liable to become adherent to the bottom of Douglas' pouch and to be curled up by the contraction of these adhesions so as to be entirely immovable. The tube in the milder cases is simply affected by a catarrhal inflammation which produces no hypertrophy of the tube walls, but often closes the peritoneal end of the tube. The contents of such a catarrhal tube are not pus but mere thick, discolored mucus. In the older cases the frequent repetitions of inflammatory action in the tube gradually bring about hypertrophy of its walls until the tube may become as thick as the little or even the index finger. It is more or less curled upon itself, twisted and tortuous, with sacculations at various points due to the accumulation of muco-pus. Both the uterine and abdominal ends of the tube are usually closed by adhesions, chiefly the abdominal end. The ovary, as I have already remarked, may be entirely healthy, although it is bound down by adhesions and often covered by the infundibulum of the tube which is spread over and adherent to it. Conception in such cases is of course impossible, since even if the uterine end of the tube were open the spermatozoa could not escape from the abdominal end, even supposing that they succeed in passing the various constrictions on the way. Besides, the adhesions covering the ovary would interfere with the escape of the ova from the Graafian follicles. In operating on such patients we must therefore consider that practically they are sterile, and that therefore the removal of their diseased appendages does not in any way affect their prospects of maternity. They are no more sterile after the removal of the appendages so diseased than they were before. It is, however, usually impossible to determine by any physical examination, even by the most experienced hands, exactly what the pathological conditions of the appendages are after a series of local inflammatory attacks. I have therefore, after a fairly large experience, numbering in all probability several thousand cases in both hospital and private

practice, come to the conclusion that we are not justified in removing appendages which have undergone a certain amount of inflammatory action, even though they may be entirely useless for the purposes for which they were originally intended, unless the patient suffers so much pain from their diseased condition that she is practically rendered a bedridden invalid and prefers to undergo the risks of the removal of the diseased organs rather than to continue to suffer the discomforts which they cause. As I have already said, the question of mutilation or of removing organs which are necessary to possible maternity does not come under consideration in well-marked cases of this kind, since an occluded tube and an adherent ovary are sufficient causes for sterility. I do not expect or pretend to restore such appendages to their normal condition by any method of treatment; it is not, therefore, for this reason that I am conservative as regards advising their removal; I simply do not believe that organs, even if they are diseased, which produce no decided discomfort to their possessor, should be removed by an operation which will never be entirely devoid of danger, no matter who performs it. It is only when these organs become the source of decided and otherwise irremediable distress that I think we ought to remove them. Let it be well understood that I am not now speaking of accumulations of pus in the tubes or ovary, but merely of tubes more or less diseased by chronic inflammatory processes, which tubes, if allowed to remain, will, however, in all probability never expose their possessors to any serious danger. The foregoing statements will account for the fact that I have operated on comparatively so few cases of chronic salpingo-oöphoritis. I could have easily done ten times as many such operations had I believed that I was justified in doing so. I may have erred on the side of ultra-conservatism, but if I did the error could easily be corrected at some later date, whereas I have never known ovaries and tubes once removed to be capable of replacement. The operation is not necessarily a very serious one, since only one out of seventy-one died, slightly more than one per cent. While therefore nearly all the patients recovered from the operation, I cannot say that all were cured thereby, for in a certain proportion of the cases the pains of which the patients complained before and for which the operation was done continued for a year or more afterward in very much the same intensity. Still, the large majority of the patients were eventually cured

entirely, and I therefore do not regret having performed the operation. Occasionally if the adhesions were very dense an exudate would appear around the pedicle, which would persist for several weeks and retard convalescence accordingly.

In a certain proportion of cases, perhaps ten per cent, menstruation continued with more or less regularity for a year or longer after the removal of the diseased appendages, although I am sure their removal was complete. In one instance the ovary was divided into two parts, so as to appear like two ovaries. If by accident the pedicle ligature was so applied as to leave the portion of the ovary next to the uterus behind, the persistence

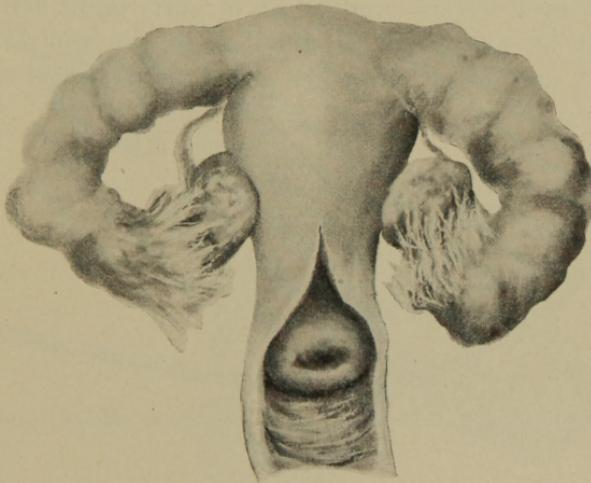


FIG. 44.—Chronic interstitial salpingitis with hypertrophied walls (pachysalpingitis). (Diagrammatic.)

of menstruation would be easily explained. This malformation is, however, very rare. The cause of the continuance of menstruation after removal of the appendages is not understood. I have noticed it only when the appendages were diseased and adherent.

It has been my practice in all celiotomies to make as small an incision as I could conveniently work through, probably scarcely ever longer than three inches. I have usually employed my fingers as the agents for detaching the adherent appendages, and only when intestinal adhesions were present or when the case was one of exceptional difficulty, such as splitting of the broad ligament or severe hemorrhage, have I found it necessary to

place the patient in Trendelenburg's position and expose the field of operation to the eye. As long ago as 1886 I became convinced that the indiscriminate use of drainage after abdominal section was a mistake, and that if the operator was clean and careful, avoiding not only the introduction of septic germs into the peritoneal cavity, but also particularly removing all the diseased tissue and checking all hemorrhage before closing the cavity, drainage was not only unnecessary but harmful. This applies particularly to the old form of drainage by glass tubes, which drained very little and irritated more than they did good. Whenever I have been obliged to drain in late years I have used either iodoform or sterilized gauze after the principle of Mikulicz, removing it within twenty-four or forty-eight hours, as the case might be, and then usually closing the wound entirely. The use of such gauze drainage was limited almost entirely to

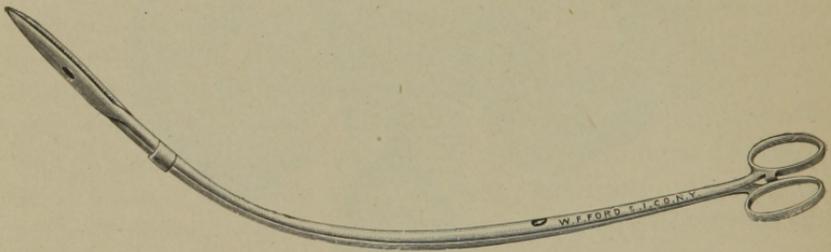


FIG. 45.—Mundé's perforating forceps for abdomino-vaginal drainage.

cases where there was considerable parenchymatous oozing which was not checked completely when the abdominal wound was closed. In a few instances, particularly abscesses and intraligamentous ovarian tumors, I have perforated into the vagina and drawn a white rubber drainage tube or a thin strip of iodoform gauze through the abdominal incision, thus affording free downward drainage. I think I have saved some lives by this procedure. The instrument shown in the cut is one which I have devised for the purpose of perforating Douglas' pouch and the vaginal roof and drawing through a drainage tube for such cases.

In concluding this portion of my subject I will say that I confess that I consider it one of the most difficult questions to decide whether a given case of diseased ovaries and tubes warrants the operation for their removal or not. There are so many dif-

ferent opinions on this subject, and so many undoubtedly perfectly honorable and straightforward men advise and practise this operation in cases where I cannot make up my mind to it, that I am afraid I will have to leave the indication for this operation to the individual judgment of each operator. I am aware that I have laid myself open to very decided and, I regret to say, from some quarters violent criticism for a plain expression of my opinion on this subject; but I feel that I have acted and am acting for what in my judgment is best for my patients. If other men think differently and act otherwise the responsibility lies with them. Pyosalpinx, or a tube distended by pus, is quite

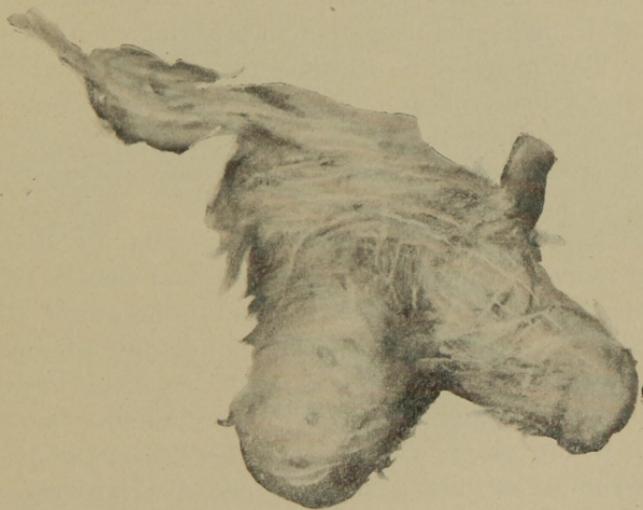


FIG. 46. —Left pyosalpinx adherent in Douglas's pouch. Ovary to right.

a different thing from a tube simply diseased by chronic inflammation. A pus-sac, whether it be of the ovary or the tube, is always a source of imminent danger to the woman who carries it, for it may rupture internally at any time and produce a fatal peritonitis. The indication, therefore, for an operation in cases of pyosalpinx is always imperative. I often see reports of operations for "pyosalpinx" in which the amount of pus found in the tube amounted only to a few drops or a teaspoonful or so. These are recorded as instances of successful removal of a pyosalpinx. Such a tube, however, is not what I call a pus-tube or a pyosalpinx.

It seems that I operated on forty cases of true pyosalpinx, according to the record. Of these five died. By operation for pyosalpinx, however, I do not mean that in every case the abdomen was opened and the pus-tube enucleated and removed. Whenever the pus-tube was movable or but slightly adherent, so far as an examination could determine, or whenever the accumulation of pus was present on both sides (twenty-six cases), I have invariably opened the abdomen and removed the entire pus-sac together with the ovary. In a certain number of cases (fourteen), however, where the distended tube was firmly adherent, was present only on one side, and bulged deeply into the vagina so that it could be easily opened through that canal, I have so operated upon it, and have usually succeeded, after some months of drainage and irrigation, in bringing about a closure of the sac. This method is of course much less dangerous than that by abdominal section, although I will admit that it is also less certain of a permanent cure. As a rule, of course, if the whole of the sac of an abscess can be safely removed, such a course is by far preferable.

Hematosalpinx, or a distention of the tube by blood, I find recorded twice. It is now a well-known fact that an effusion of blood into the Fallopian tube is in ninety-nine out of a hundred cases due to the intramural rupture of an ectopic pregnancy, and still I suppose there are some cases of blood-tube where absolutely no history of pregnancy can be elicited. As we have apoplexy of the ovary, which forms the hematoma of which I have spoken, so we may have a rupture of a varicose vein into the tubal canal which may distend it with blood. So far as it was possible to ascertain, the two cases of hematosalpinx reported here had nothing to do with ectopic pregnancy; but of this fact I cannot be perfectly sure.

Ectopic Pregnancy is recorded sixteen times, six of the right and ten of the left side, with two deaths. In one of the fatal cases, I regret to say, I failed to operate, although I made the probable diagnosis by the history and bimanual palpation. The patient was in good condition but quite tympanitic, and I preferred to reduce the tympanites before opening the abdomen. Unfortunately a secondary hemorrhage came on during the night, and before help could reach her she died. The post-mortem showed the whole abdominal cavity up to the diaphragm permeated with dark clots, and a ruptured tubal pregnancy the

sac of which was adherent in Douglas' pouch. She could easily have been saved by an operation. In the other fifteen cases I made the diagnosis, at least presumably, in the majority, in several of them with absolute certainty, and verified it by the speedily performed operation. In a number the sac had ruptured previously and the effused blood was surrounded by adhesions, but in several others the sac was unruptured and burst only during its removal. One very desperate case was transferred to me from the medical service, where she had been for four or five weeks, having been admitted there with a doubtful diagnosis. The history as given me pointed distinctly, in my opinion, to a ruptured tubal pregnancy. The abdomen was much

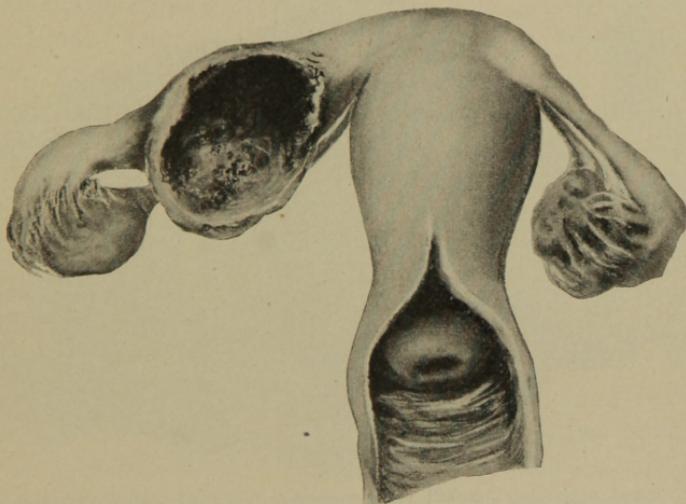


FIG. 47.—Tubal pregnancy on right side. Rupture during removal. Recovery. Fetus not found.

distended, complete dulness existed below the umbilicus throughout, and there was fairly distinct fluctuation. The patient's temperature was 104° , her pulse above 130 and poor, and her tongue furred and dry—evidently a septic condition. An aspiration made by the medical staff in the right iliac region had revealed putrid fluid blood. Half an hour after I saw her I opened the abdomen and was astounded at the gush of foul bloody fluid from the peritoneal cavity. It poured forth in a torrent, so much so that the spectators suggested that I must have opened an aneurism of the abdominal aorta. The intestines were universally glued together, and in the bottom of the pelvic cavity I found what proved to be a distended and adherent tube

which was split in the middle. Peeling this loose I found behind it the retroverted and adherent uterus. The adhesions were all fresh and easily detached. Tying off what I could of the rotten tube which was on the left side, I washed out the abdominal cavity with gallons of warm Thiersch's solution, packed Douglas' pouch loosely with iodoform gauze, and closed the rest of the wound. The patient's condition was then such that it was scarcely thought that she would survive the night. By dint of several hundred stimulating hypodermics (camphor and ether, strychnine and whiskey) she rallied, the temperature fell to about 100° , the pulse to 112, and there appeared some slight

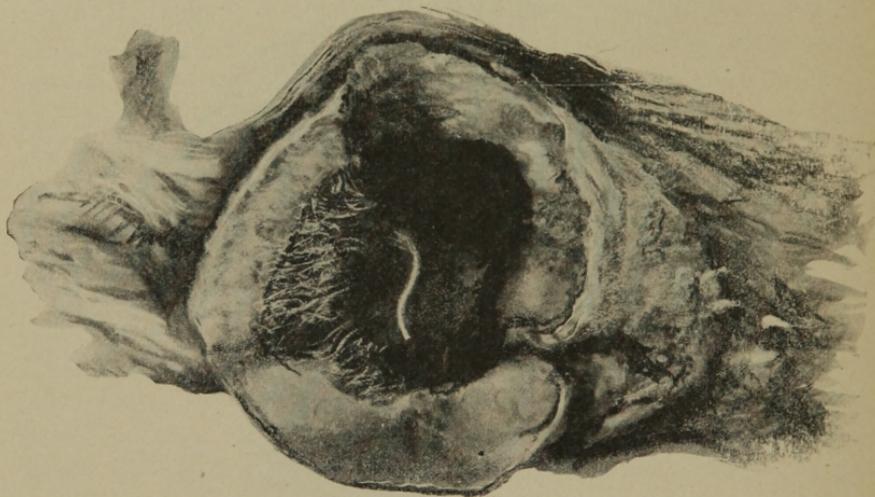


FIG. 48.—Tubal pregnancy on left side; previous repeated intramural hemorrhages. Ruptured just before removal. Recovery. Umbilical cord in centre; fetus not found.

hope for her recovery. Two days after that the temperature went up again, and, though there was no discharge from the wound, I removed the gauze, when at least a pint of very offensive fluid escaped from the abdominal wound. Seeing that drainage could not be effected in this way, I perforated the vaginal vault with the instrument seen in the cut and drew a large perforated rubber drainage tube through from the vagina. By this means the wound was kept fairly clean and in course of time granulated up completely and the patient made a good recovery. I think this was without exception the most desperate case of abdominal surgery which I have seen recover.

In one instance I was misled by the history of a case which was sent in as one of pregnancy of the right tube, and did not

find out my mistake until I had opened the peritoneal cavity. Then I discovered that the tube was normal and that the lateral tumor on the right side was due to irregular distention of the uterus. I thought I had an interstitial pregnancy before me. There being no doubt about gravidity, I drew the uterus out of the wound with volsella, intending to open the supposed ectopic sac, deliver the fetus, and sew that horn of the uterus into the abdominal wound. In order to facilitate the delivery of the uterus I inserted an aspirator needle and drew off some ounces of amniotic fluid. Before proceeding I directed an assistant to pass a sound into the uterus, in order to see where I should open the supposed distended right horn. To my surprise I found that the sound entered to the left side and only to the depth of three inches. On requesting him to reinsert it toward the right it passed up to the very end of the right horn to a distance of five inches, and at once the diagnosis was made plain—it was a case of pregnancy in the right horn of a double uterus. I closed the small wounds of the aspirator and volsella by catgut, returned the uterus into the abdomen, and closed the wound. The woman aborted the same night, but made an uneventful recovery. My experience with the diagnosis of ectopic pregnancy before operation very distinctly contradicts the assertion which Tait made some years ago, that this diagnosis can never be made until after the abdominal cavity is opened. I can prove by the records and by my assistants that with scarcely an exception I made the probable diagnosis with sufficient assurance to warrant me in sending out the invitation cards to the operation so printed.

Celiotomy for removal of the ovaries and tubes for other than decided disease of those organs—that is, for reflex hysteropilepsy—was done by me in five instances. These cases are included in the seventy-one reported as for chronic salpingo-öphoritis. It may be considered strange that, with the conservative views which I hold upon removal of the appendages, I should have allowed myself to be induced to remove clinically apparently normal appendages for the cure of epileptiform convulsions which were supposed to be due to the function of ovulation. I admit this criticism, but I can say in explanation that all of the cases had been under the observation of several prominent gynecologists and neurologists for several years, had been subjected to all kinds of constitutional and local treatment (massage, rest, electricity, and all the known nervines), without

any benefit whatever, and only after prolonged deliberation on my part did I consent to the operation. They were brought to me from different parts of the country, and, with the exception of the first one, were young unmarried women. I will admit that the indication is at best a dubious one, but the results proved that it was well taken. In all of the four unmarried cases the attacks were distinctly associated with the menstrual function and recurred in the intermenstrual period at frequent, irregular intervals. On removing the appendages the tubes were found normal, but the ovaries cirrhotic, shrunken, and even to the naked eye decidedly diseased. There was no enlargement of the ovaries, be it understood, but decidedly the reverse, the number of Graafian follicles being in each case markedly diminished and their size below the average. In one case the ovarian tissue was more like that of the kidney. All four of these girls recovered from the operation and from their neurotic symptoms. In one the attacks persisted for several months, but finally disappeared. Three of these young girls became trained nurses. I have often, in speaking of these cases, jokingly suggested the possible influence which removal of the appendages had upon the tendency of a woman to become a trained nurse. The fourth married a clergyman and I have since seen her in perfect health. The first case of the series was in a widow, and it was the only failure. I think myself that the indication was badly taken, since the derangement was more of a mental character, which finally developed into insanity and induced her to commit suicide some time after recovering from the operation.

Only in two instances did I *Remove the healthy appendages to arrest the growth of fibroid tumors*, both times with perfect success. Menstruation was at once checked, and a year later the tumor had in each instance shrunk to less than one-half its size when I operated. One was a married woman, the other a virgin. In the first case I operated for pain, in the second for metrorrhagia. The latter called on me a year afterward to introduce her husband! She was then in perfect health.

Abdominal section was twice performed for *Tubercular Peritonitis*, the diagnosis having been made with some probability beforehand. One patient died from the exhaustion of the disease, not so much from the operation. I have not been able to agree with those operators who have experienced such favorable results from this operation for this disease, since of the six cases

in all in which I have done it, five of whom recovered from the operation, the tubercular disease has evidently continued in the abdomen or made its appearance in the lungs and the patients lived but a comparatively short time. I suppose this has been merely my bad luck, and I shall therefore not fail to try again in a suitable case.

In three cases I opened the abdomen for *General Septic Peritonitis*, with which the patients were admitted; two of these died from exhaustion, the third recovered. What the cause of the peritonitis was I was unable to determine.

In three cases I opened the abdomen for *Intestinal Obstruction*. This accident does not really belong to my service, but, the cases having been admitted and the diagnosis made, there was no time to transfer them to the general surgical service. They were all desperate cases and two died soon after the operation. In the fourth, after the obstruction had been discovered and relieved, the enormously distended, almost black intestine was with difficulty returned into the abdominal cavity and the wound closed. Feeling sure that if this distention was not relieved the intestine would rupture, I ordered a large ox-gall and sulphate of magnesia high enema, and ten grains each of calomel and compound jalap powder, to be given as soon as the patient was returned to the ward. In a few hours an enormous evacuation of fluid fecal matter and gas took place, the intestines collapsed, and recovery, with the exception of some stitch-hole abscesses, was perfectly uneventful. This was a case in which the uterus and appendages had been removed for fibroid tumor some months before by a well-known operator, and the adhesions of the intestine were in the line of the cicatrix left from that operation.

In two instances I opened the abdominal cavity and *Shortened the Round Ligaments* for retroversion, after peeling loose the adherent uterus and appendages. The method which I followed was that recommended by Mann, which consists in doubling the ligaments once upon themselves and stitching them to the anterior uterine surface. The result in both cases was very satisfactory so far as retention of the uterus in the normal position is concerned. I never employ this intraperitoneal method of shortening the round ligaments except when the uterus and appendages are adherent, preferring by far Alexander's operation for the movable uterus and appendages, which I have

discussed in detail earlier in this paper. I think possibly the detachment of the adherent retroverted uterus and appendages, by means of an incision through the vaginal vault, may be effected with safety, and if so, after closing the vaginal wound, the round ligaments may be shortened by Alexander's operation. Thus a superior abdominal opening can be avoided.

Two rather rare instances of *Sarcoma of the Rectus Muscle*, both on the left side, came under observation, which necessitated the opening of the peritoneal cavity in order to permit the total extirpation of the malignant growth. The operations were exceedingly difficult and the wound made was very large. The incision was closed by interrupted sutures of catgut and silkworm gut applied in stages, and both patients recovered from the operation. What the ultimate results were as regards recurrence I do not know.

In three cases I accidentally had the opportunity to open an *Appendiceal or Perityphlitic Abscess*; they were admitted with the diagnosis of pelvic peritonitis. One patient recovered without any difficulty, the second died of general peritonitis, and in the third the diagnosis was masked by a tumor which protruded the abdominal wall in the right iliac fossa, which I pronounced to be an ovarian tumor. The patient had some temperature and evidences of suppuration; I therefore supposed I had to deal with a twisted pedicle and suppuration of an ovarian cyst. On opening the abdomen I found that my diagnosis of ovarian cyst was correct, but on removing it it was discovered that the fever was due to a perityphlitic abscess which had burrowed down behind the peritoneum and had so far destroyed the posterior layer of the broad ligament as to cause it to rupture while the finger was exploring the pelvic cavity. The patient died of general septic peritonitis. My experience with perityphlitic abscess in the female has since been quite large, but mostly in private practice, the cases having come to my notice as pelvic peritonitis. I have seen several instances of the pus burrowing down retroperitoneally, discharging into the vagina, into the rectum, and once the abscess opened in the median line above the symphysis pubis. I also have seen several cases of appendicitis with suppuration during pregnancy, once producing an abortion and once a premature delivery of a dead child in the eighth month. With the exception of the abortion case all these cases recovered after I opened the abscess in the usual way.

I was obliged to perform abdominal section for two cases of deep-seated *Abdominal Fistula* remaining after removal of suppurating tubal sacs. It was necessary to exsect the walls of the fistulous track and then to drain into the vagina, closing the upper portion of the track with catgut sutures. These operations are exceedingly difficult and their results by no means as satisfactory as we could wish, since the fistula is very liable to remain open in spite of our efforts. There is often a silk ligature at the bottom of such fistulæ, and only a removal of the ligature will eventually result in a cure.

Exploratory Celiotomy was performed by me sixteen times for different conditions: partly for ascites from malignant disease of different abdominal organs, usually the liver or peritoneum, and not of a gynecological nature, partly for diagnosis of conditions elsewhere mentioned in this report.

Once I opened the abdomen for the purpose of removing a *Hematoma of the Left Broad Ligament*, but, finding that I could not easily stitch the wall of the sac to the anterior abdominal wall, I did not open the hematoma, but closed the incision and opened, evacuated, and drained the hematoma per vaginam, with the result of a speedy cure.

In two instances I opened the abdomen for a tumor situated to the left of and behind the uterus, which I took to be the inflamed and adherent ovary and tube; indeed, I thought it was a small semi-solid ovarian tumor. In the first case, on intending to peel it loose from what I took to be the adhesions, and having succeeded and drawing up the tumor through the abdominal wound, I found to my surprise that it was the kidney which I had cleanly peeled out of its capsule. Of course what I took to be the adhesions were the peritoneum lining Douglas' pouch and the capsule of the kidney. I was obliged to remove it, which I did by tying off the pedicle in the usual manner, dropping it back, and covering it over carefully with its capsule and the peritoneum. While for several days the woman's general condition was not very good, apparently due to shock, and the amount of urine went down as low as twelve ounces in the twenty-four hours, the other kidney soon took up the work, the urine gradually increased to its normal quantity, and the patient made a good recovery. In the second instance, several years later, the peculiar feel of the tumor in the left half of the pelvis reminded me of this first case, and on opening the ab-

dominal cavity and finding that the left ovary was normal, and that therefore the tumor could not be one of the appendages, I passed my hand into the left renal region and found the kidney missing. Although the right was in its normal position, I did not think it worth while to remove the displaced kidney, since it appeared to be healthy, and therefore closed the abdominal wound, and the woman promptly recovered. I think there are very few cases on record of such a complete downward displacement of the kidney as I have thus twice witnessed.

Only once has it been my duty to operate on a *Ventral Hernia*, which was left over after the removal of two ovarian tumors at different intervals by Professor Küster, of Berlin. The ventral hernia was caused not only by the diastasis of the recti muscles, but also by a tumor which distended the abdominal walls and which was situated apparently between the layers of the left broad ligament. I opened this tumor and found it to be apparently a colloid ovarian cyst. I stitched its walls to the abdominal wound, after excising the redundant skin, and evacuated its contents. How this woman happened to have a third apparently ovarian tumor I cannot explain. The letter which she brought me from Professor Küster distinctly stated that the tumors he had removed were ovarian, one from each side. It may be that a portion of one ovary was left behind in the ligature and developed downward between the layers of the left broad ligament. The patient recovered. This is one of the few cases on record, perhaps a unique one, of *three ovariectomies* being performed on the same patient.

Laparotomy (lateral incision).—In celiotomy, or median incision, the abdominal cavity is always opened. This is therefore a true abdominal section. In laparotomy, or the lateral incision, however, the general peritoneal cavity is not opened, or at least not intentionally so, and the operation is therefore a very much less serious and difficult one. It is usually performed for the opening of abscesses which have pointed upward toward the abdominal skin, and is essentially nothing more than the opening of an abscess in any other portion of the body. It is only when the peritoneal cavity is opened intentionally or accidentally through a lateral incision, as may be the case in an intraperitoneal abscess which points to one side or other of the median line and is fixed there by adhesions, or when a perityphlitic abscess is opened, that the dangers arising from entering the peritoneal

cavity are encountered. Such abscesses as point toward the abdominal skin may be either intra- or extraperitoneal, as I have already stated. It is not always easy to tell beforehand which will be the case. As a rule, however, whether primarily intraperitoneal or not, when they point upward they have become extraperitoneal through the formation of adhesions between intestines internally and the parietal peritoneum above, and there is therefore little danger in opening such an abscess. Of course the majority of patients in whom such abscesses form have already gone through a long, severe, and wearing illness from the pelvic peritonitis or cellulitis which is the cause of the suppuration. Hence some of them succumb eventually, but not to the laparotomy; they simply are not able to stand the prolonged suppuration and drain upon their general health which the protracted illness has entailed. For this reason nine out of ninety-five cases upon whom I performed laparotomy for pelvic abscess died. I usually precede the incision by verifying the presence of pus with the aspirator needle, and then cut down, under proper anti-septic precautions, until the pus is reached, opening the abscess cavity with a pair of blunt forceps, which are separated so as to allow a free escape of the pus. One or more drainage tubes of white rubber are then inserted, according to the direction of the abscess cavity, which is thoroughly irrigated with Thiersch's solution and loosely packed with iodoform gauze. It is well to remember that at times, even in cases which seem perfectly safe, the peritoneal cavity may be opened during these manipulations, and it is therefore well to avoid any unnecessary examination or breaking-up of adhesions. If this does occur the cavity must be sealed off as well as possible with iodoform-gauze packing, which should be left in four or five days at least until fresh adhesions have taken place. This has occurred to me several times, but I do not recall any unfortunate results from the accident. At times it has been found necessary by other operators to first open the abdominal cavity in the median line, and then with the fingers ascertain the location of the abscess before they could determine where the incision for its evacuation should be made. This is likely to be the case chiefly in very deep-seated, obscure pus-sacs which point neither upward nor downward, but in which the symptoms show that suppuration is taking place somewhere. The one great trouble with these pelvic abscesses is that deep and tortuous sinuses are liable to

remain, which often resist the most thorough curetting, packing, and stimulating processes for months, even necessitating a secondary operation, already referred to under celiotomy, for their closure. I have been able to do best with some of these cases by perforating through into the vagina and drawing a drainage tube through the whole sinus, which was gradually drawn downward in order to give the upper portion of the canal a chance to close. I am sorry to say, however, that there is still very much to be learned as regards not only the prevention but also the cure of such sinuses remaining after pelvic abscesses. To say that the sinus is always the result of unclean surgery—that is, of an imperfect removal of a pus sac, for instance—is absurd, since it is impossible to remove the suppurating membrane from a pelvic abscess. In my opinion the sinuses are due to the want of vitality of the contracting walls of the abscess, which resist all efforts at stimulation and throw out nothing but unhealthy, flabby granulations which show no tendency to union and closure of the canal.

My treatment of pelvic hemocele and pelvic hematoma has been so fully given in the first part of this report that I need but refer to page 41. I will merely add that I have not as yet seen a case where I thought it necessary to evacuate the effused blood through an incision in the ilio-inguinal region instead of through the vaginal vault. I can readily imagine, however, that such a necessity might occur if the blood tumor was decidedly more prominent in the groin than in the vaginal vault. To insure thorough drainage in such cases it might be well to make a counter-opening into the vagina and run a rubber drainage tube through from the abdominal incision.

I will mention here what I omitted to say in the first part of this report: that in very large, hard exudates, both intra- and extraperitoneal, I have at times seen the absorbent effect of blisters and hot poultices increased by the internal administration of small doses of bichloride of mercury, with or without iodide of potash. If there was absolutely no rise of temperature I have often given iron with the iodide, in the form of the syrup of the iodide of iron, one-half to one teaspoonful three times daily, well diluted. In fact I have found iron, combined with some other tonic, such as quinine and strychnine, beneficial in promoting absorption of large exudates by the improvement of the general health when the febrile stage had passed. But I

have never seen the least effect from such internal medication when the exudate had shrunken and become ligamentous. Old chronic cases of perisalpingo-oöphoritis are therefore, in my opinion, beyond the reach of constitutional remedies.

Diseases of the Female Breast have not been included to any extent in my service. The few cases which are recorded, five of amputation of the breast for *carcinoma*, occurred in private patients whom I had admitted to the hospital as such. In many books diseases of the female breast are classed among gynecological affections, but it is not customary in our general hospital so to admit them.

I have removed only one coccyx, and that for caries, in the hospital; one other in my private hospital for dislocation and coccygodynia. I am not very much in favor of mere pain in the coccyx as an indication for its removal, since I believe that it is mostly of a neuralgic character, and if the coccyx is removed the pain simply shifts somewhere else. However, I do not pretend to give a positive opinion on this subject.

There are a few other operations for general diseases which will be found in the list, which it is not my intention to specify.

TABLE III.

DEATHS FROM ALL CAUSES.

PERINEUM	Laceration (septicemia after operation)	1
RECTUM	Carcinoma	1
	Fistula (recto-vaginal)	1
BLADDER	Epithelioma	1
	Cystitis (pyelo-nephritis)	1
	Fistula (vesico-uterine; rupture of ovarian abscess; peritonitis)	1
UTERUS	Abortion (septicemia)	4
	Carcinoma	5
	Fibroid (after operation)	4
	Pregnancy (extrauterine, 2; 1 of secondary hemorrhage before operation)	4
	Prolapsus (after hysterorrhaphy)	1
	Polypus (hemorrhage)	1
	Placenta previa (exhaustion)	1
TUBES	Sarcoma	3
	Salpingitis	} after celiotomy.
	Hydrosalpinx . . . . .		1
Pyosalpinx	5	

TABLE III.—Continued.
DEATHS FROM ALL CAUSES.

OVARIES.....	Abscess.....	} after celiotomy.	1
	Cyst.....		11
	Carcinoma.....		2
	Papilloma.....		1
	Sarcoma.....		1
PELVIC PERITONEUM AND CELLULAR TISSUE.....	Abscess.....	} after operation.	9
	Hematocele.....		3
	Hematoma.....		2
	Peritonitis.....		7
	Sarcoma.....		1
ABDOMEN.....	General carcinosis of abdominal organs.....		6
	Sarcoma of pelvic organs.....		1
	Carcinoma of colon.....		1
	Peritonitis, general (secondary or septic).....		12
	“ tubercular.....		1
	Obstruction of intestines.....		2
	Perityphlitis.....		2
	Pyemia.....		1
			102

TABLE IV.

TOTAL NUMBER OF PATIENTS, DEATHS FROM ALL CAUSES, AND OPERATIONS
IN EACH YEAR.

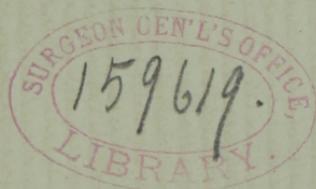
Year.	Patients.	Deaths.	Operations.
1883	181	3	47
1884	248	4	59
1885	257	6	84
1886	311	12	90
1887	239	9	107
1888	236	8	111
1889	280	6	121
1890	353	9	173
1891	345	10	184
1892	360	10	238
1893	447	10	258
1894	505	15	295
	3,898	102	1,767

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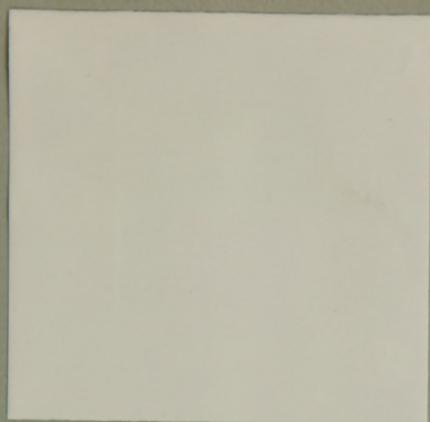
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