Reed (R. H.)

A Contribution to the Study of Some of the Diseases Peculiar to the Right Iliac Fossa;

WITH REFERENCE TO THEIR RELIEF BY SURGICAL INTERFERENCE.

BY

R. HARVEY REED, M. D.,

(UNIVERSITY OF PENNSYLVANIA,)

MANSFIELD, OHIO,

Professor of the Principles and Practice of Surgery and Clinical Surgery, Ohio Medical University.

Presented by the author

SURGEON GEN'L'S OFFICE 474 LIBRARY

REPRINTED FROM

The American Gynecological Journal, Toledo, O.,

JULY, 1892.

THE BEE JOB ROOMS, TOLEDO, O.

A CONTRIBUTION TO THE STUDY OF SOME OF THE DISEASES PECULIAR TO THE RIGHT ILIAC FOSSA; WITH REFERENCE TO THEIR RELIEF BY SURGICAL INTERFERENCE.[1]

BY R. HARVEY REED, M. D. (UNIVERSITY OF PENNSYLVANIA), MANSFIELD, O., PROFESSOR OF THE PRINCIPLES AND PRACTICE OF SURGERY AND CLINICAL SURGERY, OHIO MEDICAL UNIVERSITY.

In the paper we presented before this Association last year, we confined our study of the diseases peculiar to the right iliac fossa to that of chronic catarrhal appendicitis, and endeavored to show you by practical experience the importance of removing the appendix vermiformis as a safeguard to the patient's health and life, from the dangers that are liable to arise from a chronic catarrhal condition of this useless appendage.

In addition, however, to chronic catarrhal appendicitis, this appendage may be the seat of a variety of other difficulties, which are equally as dangerous, if not more so, than the chronic inflammation of this rudimentary attachment.

Single or double oöphorectomy has long since been considered an established and a justifiable operation by gynecologists the world over; whilst, in the removal of the appendages for chronic catarrhal inflammation of the Fallopian tubes, or for salpingo-dropsy, pyosalpinx or any of the other maladies, which may so interfere with the functions of these organs as to disturb the general economy and resist the ordinary line of medication, those surgeons who have had experience in the surgical treatment of the diseases of the ovaries and their appendages are living witnesses of the beneficial results which have been derived from the surgical assistance afforded by operations for their relief; and, notwithstanding this operation may deprive a woman of the ability to carry out the

[1] Read before the forty-seventh annual meeting of the Ohio State Medical Society, held at Cincinnati, Ohio, May 4th, 5th and 6th, 1892.

SURGEON GEN'L'S OFFICE 474 LIBRARY

prime object for which she was created, yet few surgeons hesitate to remove these organs, for her relief, when the indications are such as appear to justify it.

On the other hand, man, and even his helpmate, woman, have been subjected for lo! these many years to a variety of diseases of the appendix vermiformis, which, under many circumstances, are fully as dangerous and equally as painful as the diseases peculiar to the appendages of woman only; and, notwithstanding the removal of this useless extension of the cæcum places no embargo on the procreative power of either man or woman, yet it has been allowed to go on without surgical interference for ages, notwithstanding it has been the unquestionable means of causing the death of thousands and tens of thousands of patients.

Strange to say, however, in the face of these facts, we have surgeons, but more particularly physicians, in almost every part of our country to-day, who object to surgical interference in diseases of the appendix vermiformis, and at the same time will advocate the removal of the ovaries and their appendages, and thus desex women for diseases which are no more painful, and even less dangerous, than those which are liable to attack their next door neighbor, the appendix vermiformis.

To my mind, nothing can be more paradoxical than for a surgeon or a physician to advocate the removal of the ovaries and their appendages, under almost every conceivable circumstance, for the relief of the many different forms of disease which may affect them, and at the same time object to the removal of the appendix vermiformis (a harmful, useless rudiment) for the relief of diseases which are equally dangerous, correspondingly painful, and comparatively as frequent.

It has always seemed strange to me that physicians and surgeons would, in the language of the commercial traveler, allow themselves to make "a run" on a certain disease, or rather diseases, peculiar to certain organs, to the practical exclusion of all others, which are equally important, if not fully as dangerous.

The liver has long since been the scape-goat for a multitude of diseases; likewise malaria has made it easy for the physician to diagnosticate a conglomeration of symptoms which he is unable to solve and render a rational solution for, and trace to any one particular cause. At the same time idiopathic peritonitis has taken its seat in the amen corner with "malaria," "liver complaint" and "female weakness."

We can truthfully say that volumes have been written on these subjects. In fact, for years the medical student would have been justified in arriving at the conclusion, from his study of the various text books, that certain organs of suffering humanity were the principal seats of all diseases, to the practical exclusion of all others.

It took a Senn to demonstrate that the pancreas was not only liable to cystic degeneration, but was susceptible to successful surgical treatment; whilst it was left for a McBurney to direct the attention of

the profession to certain diseases of the vermiform appendix, which were not only, like the diseases of the pancreas, dangerous, but susceptible to successful surgical interference.

In the language of an old adage, that "it is hard to learn an old dog new tricks," we realize the difficulty of diverting certain members of the profession in every community from the time-worn ruts they have long since traveled in, and induce them to strike out in a new and, to them, untrodden path, especially when it is so easy for them to jog along in the old time-worn rut, and depend on opium, the customs of the past, and the graveyard to bury their ignorance and justify their adopted line of treatment.

We take it for granted that there is not an educated physician or surgeon at this day and age who will admit, or who can conscientiously believe in the old idiopathic theory of the origin of any disease. But, on the contrary, that every effect is due to some cause, and whenever we attempt to make ourselves believe that this cause is of an idiopathic character, it is only admitting that we have not been able to discover the *real* cause of certain effects, and are simply trying to smooth off our ignorance and soothe our conscience and console the patient, by assuming that this difficulty has been of an idiopathic nature.

This being the case, we are in a position to assume that every case of not only typhlitis, para-typhlitis, peri-typhlitis or appendicitis is the result of a cause, and, in addition to this, we are satisfied that many cases of so-called idiopathic peritonitis have been the results of one or more of the diseases above mentioned, which are peculiar to the right iliac fossa.

ETIOLOGY.

In the study of the causes that produce many of the diseases peculiar to the right iliac fossa, we may enumerate the following:

First.—Traumatic influences: *a.* Direct injury, extra-peritoneal. *b.* Direct injury, intra-peritoneal.

Second.—Foreign bodies: *a.* From without. *b.* Formed within.

Third.—The result of disease: *a.* Congestion. *b.* Inflammation, acute or chronic. *c.* Suppuration. *d.* Tuberculosis.

TRAUMATIC INFLUENCES.

That traumatic influences are frequently the cause of grave injuries of the viscera peculiar to the right iliac fossa is beyond any question. A direct blow over the right inguinal region may produce a rupture of the head of the cæcum, or even of the vermiform appendix, without breaking the skin or producing a solution of the continuity of the abdominal parietes, as I have seen in several instances; a good illustration of which will be found in case number 1.

Again, I have seen cases where direct force applied externally over the right inguinal region was sufficient to produce enough of contusion,

without rupture of the intestinal walls, and no visible external appearance to indicate it, to set up an inflammation of the head of the cæcum, or the appendix vermiformis, which is followed with a "sick spell," lasting anywhere from one to eight weeks, or longer, followed by apparent recovery, yet most of these cases are sooner or later annoyed by recurrent attacks referred to this region.

In this class of cases, whilst the inflammatory symptoms may not be very severe and the patient's life not particularly threatened, yet at the same time I have seen the most aggravated conditions grow out of a very slight injury of this character, resulting from the adhesions produced by the inflammation, which had glued the vermiform appendix (which in some instances is double the normal length) to the mesenteric side of the cæcum, thus obstructing the circulation to such an extent as to produce the most marked varicosed condition of the veins supplying the cæcum and ascending colon, which is illustrated by case number 2.

Under the head of traumatic influences affecting the right iliac fossa, resulting from intra-peritoneal injuries, may be mentioned those produced usually by lifting or jumping. For instance, I have seen cases in which a hernia involving the appendix vermiformis was produced by lifting, which necessitated operative interference for its relief and the preservation of the life of the patient. Again, I have seen cases in which acute congestion and rupture of some of the capillary blood vessels supplying the vermiform appendix was followed by the most aggravated symptoms, and was only relieved by operative interference, which is demonstrated by case number 3, whilst case number 4 demonstrates the result of non-operative interference.

FOREIGN BODIES.

Perhaps the most common cause producing diseases of the right iliac fossa, and especially those involving the vermiform appendix, are produced by foreign bodies. These may be received from without, such as cherry pits, grape seeds and the like, which are swallowed, and eventually find their way into the vermiform appendix and set up ulcerative inflammation, which, in the course of time, result in a perforation and either general suppurative peritonitis or a circumscribed abscess, which is not always confined to the right iliac fossa, but may extend to the rectum, or may ascend as high as the liver and involve a portion of that, as has been shown by Dr. Weir, of the New York Hospital. I consider these abscesses of the most dangerous character, as they are liable to attack and destroy, by sloughing and gangrene, any portion of the ascending colon, as is demonstrated by case number 5, or even involve the omentum to such an extent as to produce gangrene of a large portion of this natural protector of the abdominal viscera, as is clearly shown by case number 6.

I dare say that few operators will disagree with me when I say it is the exception rather than the rule to find the diseased vermiform appendix free from one or more fæcal enteroliths, which, in many instances, are very hard, and at any time are liable to produce perforation by ulceration and threaten the patient's life, which I have seen occur time and again.

At all events, these fæcal concretions are, I firmly believe, formed within the vermiform appendix, and are nearly always associated with chronic catarrhal appendicitis. Yet, it is a question whether they are the cause of this chronic catarrhal condition, or whether the chronic catarrhal condition favors their formation, but, whilst it is interesting, scientifically, for us to determine which of the causes come first, and which is the exciting cause of this chronic condition and which is not, yet, practically, it is of little consequence when you are called to the bedside of a patient, whose life is threatened by one of those abominable fæcal enteroliths, whether it has been caused by a catarrhal condition of the appendix, or the catarrh has been caused by it.

THE RESULT OF DISEASE.

That many of the diseases peculiar to the right iliac fossa are the result of disease, and not in any way associated with traumatic origin, is certainly beyond any question.

Congestion, the result of "catching cold," is a frequent cause for getting up inflammatory troubles involving the vermiform appendix, or even the head of the cæcum, and every time an acute inflammation of the vermiform appendix occurs the patient is liable to become a sufferer from chronic catarrhal appendicitis, which we know by experience is usually followed by recurrent attacks of an acute character, which, as a rule, become more and more severe until the patient is relieved of his malady by death or surgical interference.

In fact, every time a patient has an attack of acute appendicitis, he is not only in danger of having it followed by a chronic catarrhal condition of this rudiment, but he is also in imminent danger of having it followed by suppuration, which experience has led me to consider and fear as a most grave and dangerous condition, a condition from which the patient seldom makes a permanent recovery, or, if he does, it leaves him suffering from some sequel, the result of destructive changes of the viscera of that particular part of the abdominal cavity, the consequence of this suppuration.

My attention has recently been called to a case of tuberculosis of the vermiform appendix, which, of course, is perhaps just as liable to be attacked by this dreaded disease as any other portion of the abdominal viscera; but the peculiar symptoms and history of this case are of such a character as to not only be misleading, but to be convincing to my mind that the tubercular trouble had its origin in the mesenteric

portion of the vermiform appendix, which, I think, is clearly demonstrated by case number 7.

DIAGNOSIS.

In the free discussion which followed my paper on the surgical treatment of chronic catarrhal appendicitis at the last meeting of this society, I notice that the great "bugbear" which seemed to scare some of our members with reference to operative interference last year was the diffiulty of diagnosticating the exact nature and extent of the pathological changes which had taken or were taking place. Whilst we admit the diagnosis of the exact condition of the vermiform appendix is about as difficult and complex as it is to make a positive diagnosis as to the exact pathological conditions which may affect the uterine appendages, yet how many gynecologists are there nowadays who will object to an operation simply because they cannot diagnosticate beforehand whether the ovaries contain a number of cysts, or but one cyst, or whether the Fallopian tube is distended with water, blood or pus.

In fact, where is the gynecologist, with an extraordinary amount of practical experience, who will dare to venture a positive and explicit diagnosis as to the particular pathological condition of the uterine appendages which he proposes to remove? He will tell you very quickly that it is enough to know that the disease is incurable without an operation, and severe enough to warrant relief by an operation, and that after the operation it will be much easier for him to explain the exact pathological condition that existed, than prior to an operation, with much less danger of being mistaken.

In brief, all that he desires to determine from a practical standpoint is that the uterine appendages are diseased, and that the disease is of such a character as will not get well under ordinary circumstances without surgical interference, and with this amount of knowledge nine-tenths of the gynecologists in this country will, without any hesitancy, advise an operation.

Now let us, with the light thrown on the question of diagnosis by the practical gynecologist, proceed to determine the essential points necessary to warrant operative interference on the vermiform appendix.

It is usually a very easy matter to determine the possibility of the disease of the right inguinal region, not only by the locality, but by the tenderness of the parts on pressure, together with the pain in this region of the abdominal cavity. Especially is this so in the male. In the female, however, it is necessary to differentiate between a pathological condition of the right ovary and that of the appendix, or the cæcum. This, however, is usually very easily done by a bimanual examination, in which one hand is used to make pressure over the right inguinal region, while the index finger of the other is placed well up in the right horn of the vagina, by which manipulation it is very easy to

follow out along the broad ligament and the tube until you come to the ovary, and then determine whether the tenderness is in the Fallopian tube, the ovary, or higher up in the region of the vermiform appendix.

After practically determining that the difficulty is confined to the head of the cæcum or its appendix, it is usually a very easy matter to learn from the history whether the difficulty is the result of direct extra-peritoneal injury or not. It is usually an easy matter to obtain from the patient the fact whether he, or she, has been struck or kicked over this region, or whether he has, as I have seen, bruised himself by pushing some heavy article, by placing it against his abdomen.

Intra-peritoneal injuries are not quite so easily determined, although they are generally connected with the history of a heavy lift or strain, which are immediately, or in a very few hours after, followed by pain in the right inguinal region, frequently extending up toward the umbilicus, which the patient usually refers to as "colic." This may be followed by vomiting and constipation, or we may have constipation and diarrhœa alternating, whilst the tenderness increases and a circumscribed tumor can usually be detected on palpation, and, in addition to this, the circumscribed dullness, which usually occurs from the localized œdema, is sufficient to warrant the opinion that the difficulty is the result of some intra-peritoneal injury of this particular region.

In cases where there is no history of either extra- or intra-peritoneal injuries, it is of no practical importance whether the morbid changes which are going on in the right iliac fossa are the result of foreign bodies, such as cherry pits, grape seeds, and the like, received from without, or whether it is the result of enteroliths formed within the vermiform appendix. I say there is practically no necessity of determining which of these conditions is the cause of the difficulty, because the results of either are practically the same, and at the same time there is no method known, at the present time, by which a differential diagnosis can be made, in reference to these particular conditions.

In pathological conditions of the right iliac fossa, resulting from disease, it is usually very easy to trace a congestion to a severe cold. The patient may have been exposed in some manner, resulting in a chill, followed with congestion, which may soon localize itself in the right iliac region, followed with pain, tenderness, and often circumscribed swelling in that region. In these cases it is not unusual to have them ushered in with vomiting and followed with severe constipation, which may finally give way to acute diarrhœa, followed with resolution. More frequently, however, this class of cases is apt to be followed with a chronic catarrhal condition of the vermiform appendix, in which recurrent attacks of acute inflammation are liable to occur. They usually become so severe in a few months or years as to make life a burden and a disgust, rather than a comfort and a pleasure.

Again, acute congestion followed with inflammation, or even chronic catarrhal appendicitis in any of its recurrent attacks of acute inflammation, may be followed with suppuration, which is, as a rule, easily diagnosticated; first, by localized tenderness and swelling, by the peculiar red tongue, by fluctuation and rigors, which sooner or later manifest themselves under these circumstances, and especially the general collapse, which is always manifested when there is suppuration, the result of perforation. Whilst we may have tenderness over the entire abdomen, it will be found that there are not usually present symptoms of general peritonitis, and that the focus of tenderness is in the region of the right iliac fossa, and that, as you recede from the so-called McBurney point, the tenderness is less marked, the dullness dissolves into resonance, fluctuation is lost, and, last but not least, the circumscribed tumor, usually consisting of the abscess walls, can be distinctly outlined in the right iliac region, on careful examination.

It is much easier, and also much less important, to diagnosticate between suppurative appendicitis, the result of traumatic influences, or suppurative inflammation, the result of acute congestion, or chronic catarrhal appendicitis, than it is to distinguish between suppuration from these causes, and circumscribed effusion resulting from tuberculosis of the appendix vermiformis; especially so, when there is no family history of tuberculosis traceable in the patient.

It is not necessary for us to argue the question, which has already been settled by different investigators, that tuberculosis is liable to occur in any person, whether they have a family history of hereditary tuberculosis or not. In other words, tuberculosis is believed to be a disease which is susceptible of transmission from one person to another, and also that it may attack almost any portion of the human economy. When this dreaded disease attacks the vermiform appendix, and makes this its initiatory *locus minoris resistentias*, then we may expect to have an inflammatory condition with effusion. We are also liable to have (as is demonstrated by case number 7), the vermiform appendix encysted, and, when this condition of things occurs, it is quite as difficult to diagnosticate between a cyst containing peritoneal effusion due to tubercular irritation and a cyst including the appendix, containing pus or non-tubercular effusion.

It is exceedingly important to determine, if possible, whether the origin of the appendicular trouble is the result of tubercular inflammation, or whether it is the result of some other exciting cause, and especially so if the case is one of long standing, for, unless the tubercular focus is removed early, there is little or no use of attempting its removal with any hope of permanent recovery, for the reason that the disease will soon extend along the mesentery to other portions of the intestinal tract, or even the omentum or liver.

To my mind there is no known method, in the absence of the knowledge of existing tuberculosis, by which we can determine between a cyst containing tubercular effusion and a cyst containing pus or non-tubercular effusion, excepting by aspiration, and this I would consider much more dangerous to the patient, for various reasons, than to make an exploratory incision and determine the true nature of the difficulty. Usually, however, it is possible to elicit a history of tuberculosis, or the symptoms of the patient may be of such a character as to lead to its detection; yet even the enlargement of the glands, due to tubercular influences, cannot always be relied upon as a diagnostic symptom of this disease, for the reason that enlargement of the glands may result from absorption of pus from an abscess in the right iliac region, as well as from an abscess in any other part of the human economy.

PROGNOSIS.

Experience, which has always been considered a good teacher, and as such has led us to be guarded in our prognosis of the diseases peculiar to the right iliac fossa, has taught me that, whilst we may have a perforation of the vermiform appendix followed with an abscess, which may open externally and finally result in resolution, with or without a fæcal fistula, yet we often have what may start as a mere congestion of the vermiform appendix, followed with inflammation, and later, chronic catarrhal appendicitis, followed by perforative ulceration from a fæcal enterolith, resulting in death.

Experience has also taught me to look upon these troubles as always being of a dangerous and treacherous character, and, like a volcano which may rest for years in a passive and harmless condition, may burst forth at any time with a disastrous eruption, causing death and destruction to everything before it. So with the diseased vermiform appendix, in regard to which we feel like endorsing the language of the Indian, who was asked what he thought of a gun, when he said "it was dangerous without lock, stock or barrel." So it is with the writer, who looks upon the diseased vermiform appendix as always being of a dangerous character, and like the old adage that "the only good Indian is a dead Indian," so it is with the vermiform appendix—the only safe vermiform appendix is the amputated one. By this we mean to say that we look upon the diseased vermiform appendix as being dangerous at all times and liable to assume a fatal condition at any time, and therefore, our prognosis should always be of the most guarded character.

TREATMENT.

The experience of the past year has not changed the writer's opinion as to the proper and safe treatment of the diseased vermiform appendix, and, like money in the commercial world, which is said to be "the root of all evil," so the vermiform appendix may be looked upon

as the "tap root" of all evils occurring in the right iliac fossa, with the possible exception of the ovary in woman; and, unless further light is thrown upon this subject to convince me that I am wrong in my conclusions as to the proper method of treatment, I will reiterate in substance what I said in my paper last year, that the only safe and reliable method of treating the diseased vermiform appendix, and the only one that will enable you to render anything like a favorable prognosis, is the amputation of this useless, dangerous and treacherous rudiment—the inheritance we have received from our ancient ancestors.

REPORT OF CASES.

Case I.—William H., of Crestline, Ohio, a vigorous, healthy, muscular man, aged 37, was ripping lath on June 29th, 1891, and about 3 p. m. was struck by the end of a lath, thrown by a buzz-saw, with great violence, over the right iliac region, producing a slight abrasion of the skin, considerable bruising of the muscles, followed with ecchymosis, without a rupture of either the integument or the abdominal walls.

The man walked home from the shop where he was working, a distance of several blocks, and called a local physician by the name of Clutter, who gave the man but little attention and went off and left him in the hands of a tyro. The man continued to get worse until Doctors Kelley and Son, of Galion, were called in counsel by the friends, who in turn sent for the writer, who found the man suffering from circumscribed peritonitis, with severe pain over his right iliac region, countenance pinched and anxious, pulse rapid and temperature above normal, indicating every evidence of a rupture of the intestine, with fæcal extravasation, resulting in circumscribed peritonitis; and, in harmony with the opinion already advanced by Doctors Kelley and Son, we advised an operation at the earliest possible moment, as giving the best chance for his recovery, notwithstanding the opposition to the same by the attending physician, Dr. Clutter.

A laparotomy was performed by the writer, assisted by Doctors Kelley and Son, in the presence of Dr. Clutter and others, in which we found a rupture of the colon just above the head of the cæcum, which was one and one-eighth inches in length, and from which large quantities of fæcal matter had escaped into the abdominal cavity, setting up a most violent circumscribed peritonitis, which by this time had formed large quantities of lymph, which was rapidly breaking down into pus.

The abdominal cavity was thoroughly washed out with a $\frac{1}{5000}$ bichloride solution, the opening in the bowel closed with a Czerny-Lembert suture, a drainage tube introduced and the external wound closed. Notwithstanding the enormous destruction to the intestinal and parietal peritoneum, which resulted from the fæcal extravasation, followed with the most violent suppurative peritonitis, the man lived seventy-two

hours after the operation, when death took place suddenly, probably the result of rupture of the intestine, due to sloughing and gangrene.

Remarks: It is our candid opinion that had this man been operated on in time, as he should have been, that a valuable life would have been saved with but little or no trouble, but, owing to the dilatory methods adopted by his attending physician, who delayed and opposed the operation until his opinion was overruled by the friends of the patient, at which time (four days after the injury) the destruction occasioned by the injury had become so great as to make the prognosis without an operation absolutely unfavorable, and even with an operation (which in our judgment gave the only chance of recovery) very uncertain.

Case II.—Mr. Alpheus S., age about 40, of Marion, Ohio, a farmer by occupation, was seen by the author for the first time on March 10, 1892, in counsel with Dr. Rhu, who gave the history of his patient having been struck by a wheel in the right inguinal region, some six months previous, and from that injury he dates his difficulty in the right inguinal region, which gradually grew worse and worse until he was confined to his bed and recovery was doubtful, when an operation, which had been advised by Dr. Rhu, was consented to by his friends, and on March 13th he was operated by the writer, assisted by Drs. Rhu, Martin and Thomas, of Marion, and Dr. F. H. Harding, of Mansfield.

On opening the abdominal cavity, the veins of the cæcum were found in a remarkably varicosed condition, whilst the vermiform appendix, which was five inches in length, was found tightly adherent to the mesenteric side of the cæcum and ascending colon, thus interrupting the circulation and producing this remarkable varicosed condition of the veins thus involved. The appendix was carefully dissected out of its abnormal position, which necessitated the tying of several small arteries, after which it was ligated close to the head of the cæcum and removed. The stump of the appendix was covered with omentum and the abdominal wound closed.

The patient made a rapid recovery without any bad symptoms, whilst the pain was relieved almost immediately after the operation, and he is to-day in the enjoyment of his ordinary health.

Remarks: Here is another case showing the result of traumatism, in which the circulation was so obstructed as to sooner or later set up such destructive inflammation as to have endangered recovery, but for an operation, which was not only advised by the attending physician and his counsel, but by the operator, and the result of the wisdom of this advice needs no comments beyond the report of the facts of this case.

Case III.—Fred. B., aged 25, of Shelby, Ohio, whilst lifting a heavy weight on July 4th, 1891, felt something "give way" in the right iliac

region, which induced such severe pain as to make him "double up" for a few moments, which was followed soon after by diarrhœa. The same evening, however, he rode to Shelby, a distance of some two miles, and while there was taken with severe "cramps," and returned home as soon as possible. These "cramps" were followed with diarrhœa, which lasted all night, and the next morning, July 5th, he again rode to Shelby and consulted his family physician, Dr. A. F. Hyde (to whom I am indebted for the report of this case), who found his pulse and temperature slightly elevated; abdominal muscles rigid with extreme tenderness, as the doctor puts it, "in the southwest corner of his abdomen," meaning the right iliac fossa.

Dr. Hyde promptly advised him of the serious aspect of his symptoms, and put him on small doses of calomel and opium. But, notwithstanding, he grew rapidly worse, and July 6th tumefaction began to occur in the right iliac fossa, which, in a day or two, was followed by more favorable symptoms, which only lasted a short time, when his symptoms became aggravated, his pulse weak and rapid, his temperature ranging from 101° to 103.5°, countenance anxious and facial expression pinched, with marked aggravation of all the symptoms in his case.

On July 18th the writer was called in council with Drs. A. F. Hyde and M. T. Love, who had already advised operative interference. I made a laparotomy, found the head of the cæcum inflamed, with a short, contracted vermiform appendix, which was removed in the ordinary manner, a drainage-tube was inserted and the external wound closed by three rows of sutures. The first, a fine continuous suture of cat-gut, closing up the peritoneum; the second, a continuous suture of heavier cat-gut for the muscular walls, and third, closing the integument with deep interrupted silk sutures, which dipped down into and included the second row of cat-gut sutures.

The patient made a rapid and uninterrupted recovery, and, in a few weeks, was out attending to his ordinary avocations on the farm.

Remarks: This case is simply another example of the importance of operative interference in traumatic injuries, which set up and maintain a continuous, or even recurring, disturbance of the abdominal viscera in the right iliac region.

Case IV.—I am indebted for the report of the following interesting and instructive case, wich was furnished me by my friend, Dr. Auguste Rhu, of Marion, Ohio.

Orley H——, aged 15 years, sustained a slight injury of the right inguinal region, while riding a bicycle. A week later he complained of cholera-morbus and pain in the abdomen, from which he made a partial recovery, but, on August 6th, 1891, he had another attack, for which he was treated by his father, who was a physician, for peritonitis, who had called to his assistance several other local physicians.

Dr. Rhu was called in on the fourth day of this last attack; diagnosed the case as one of suppurative appendicitis by the McBurney method, and advised immediate surgical interference, which was refused. The result was that a post-mortem was held August 11th, 1891, which revealed a large collection of pus, surrounding a perforated appendix, that contained a fæcal enterolith, in addition to another fæcal concretion, which had escaped and was found in the abdominal cavity.

Remarks: In this case we have a marked contrast with case number three, of the results of non-operative interference, as compared with operative interference, for traumatic injuries of the right iliac fossa, and, except to call your attention to this one particular point, we do not deem further comment necessary, as the case and its results speak for themselves.

Case V.—Mrs. Maud S——, of Marion, Ohio, a prominent young married lady of that city, was taken ill about July 2d, which illness was marked by pain and tenderness in the right iliac fossa, which increased in severity, until it was evident to Dr. Rhu, the attending physician (to whom I am indebted for assisting me in obtaining a report of this case), that suppurative appendicitis, resulting in a circumscribed abscess, had occurred, notwithstanding he was unable to trace her illness to any particular cause. Whilst the Doctor was unable to determine satisfactorily the etiology of this case, subsequent investigations of the case showed a perforation of the vermiform appendix, which was undoubtedly due to ulceration, caused by a foreign body, which, in all probability, was a fæcal enterolith, which had escaped and formed an abscess and subsequently dissolved in the pus, and thereby escaped detection.

Dr. Webb J. Kelley, of Galion, was called in counsel and concurred in the opinion of Dr. Rhu, that operative interference was the only possible chance for her recovery and, in harmony with that opinion, the writer was sent for on July 24th, 1891, at which time he found all evidence of a circumscribed abscess in the right iliac region, which undoubtedly involved the vermiform appendix and the head of the cæcum, and advised immediate operation as the last and only possible chance for her recovery.

Owing to a sudden collapse, which occurred about three o'clock the night previous to the operation, it is the opinion of the writer that perforation of the ascending colon took place at that time, and it was with great difficulty that the attending physicians were enabled to secure reaction from the shock she sustained at this time. The patient having to a certain extent rallied from the shock at the time the writer saw her, it was decided by Drs. Rhu, Kelley and himself that nothing short of an operation could possibly save her life, and there was no guaranty of that doing so, owing to the delay and extensive destruction that had undoubtedly taken place.

This, however, being explained to the family, an operation was decided upon and a laparotomy made by the usual oblique incision parallel to Poupart's ligament, which revealed that gangrene had taken place, and that, owing to that, a perforation had taken place in the ascending colon, about three inches above the head of the cæcum, with large quantities of fæcal extravasation which was mingled with the most offensive character of pus, of which fully a quart and a half was evacuated, and the circumscribed abscess cavity, which involved the head of the cæcum and extended well down in the iliac fossa, was thoroughly washed out with a $\frac{1}{5000}$ bichloride solution.

Owing to the marked pathological changes, with adhesions and thickening of the parts, we were unable to find the vermiform appendix, and, going on the advice of other operators, that when such was not readily found, owing to the adhesions, it was best not to break up those adhesions and remove it, we allowed it to remain. After closing the opening in the bowel by a Czerny-Lembert suture, a large drainage tube was placed in the abdominal wound, which was closed in the usual manner.

The patient rallied from the operation, and, for a few days, promised fair prospects of recovery, but unfavorable symptoms returned and the patient died on the sixth day after the the operation. A post-mortem showed an abscess under the ascending colon, where the perforated appendix had been attached, and, owing to the perforation, was keeping up the original cause of the whole trouble.

Remarks: This case contains several interesting lessons. In the first place, it was mistaken by some of the local physicians for a case of typhoid fever. I suppose this was owing to the fact that we sometimes get tenderness in the region of the right iliac fossa in typhoid fever, due to irritation of the so-called "Peyer's patches."

In the second place, owing to this division of opinions, the case was delayed until operative interference gave but little chance for permanent recovery.

In the third place, when operative interference was made, the perforated vermiform appendix, which could not be readily found, owing to the thickening and adhesions already mentioned, was allowed to remain, in harmony with the advice of other writers and operators, whose opinions and experiences we at that time considered worthy of imitation; but this case has clearly and distinctly shown the fallacy of making an operation of this character without finding and removing the offending vermiform appendix and evacuating every particle of pus and foreign material which may infest any part of the abdominal cavity.

Case VI.—John H——, of Shelby, Ohio, aged 44, a laborer, of spare build and ruddy complexion, had the history of having had a scrotal hernia on the right side, which disappeared with the use of a truss, when at about the age of 12 years.

For several years prior to his death he suffered from occasional attacks of abdominal pain localized in the right iliac fossa, followed by a more or less persistent diarrhœa. He complained of tenderness and soreness in the region of the appendix vermiformis, which pain was always aggravated by hard labor, especially by efforts at lifting heavy weights (which he was accustomed to do, owing to the fact that he was a marble cutter), but which *he* thought arose "from weakness" due to the rupture. On February 19th, 1892, he was attacked with severe abdominal pain, nausea and vomiting, accompanied with constipation.

Dr. A. F. Hyde (to whom I am indebted for assisting me in obtaining this report), saw him for the first time on the evening of February 20th, for up to this time he was under the treatment of Dr. Ryal, a homœopath of that village. His pulse was found to be 90, and temperature 99°, whilst severe tenderness was observed on palpation over the right iliac region.

Dr. Hyde at once gave it as his opinion that the man was suffering from an attack of appendicitis, with the possibility of suppuration, but did not see him again until the evening of the 22d, the fourth day after the onset of his last attack. At this time his pulse was 120, temperature 98°, with considerable tympanitis. Hiccoughing had set in twenty-four hours previous to this, as the natural result of septic infection, and gave the patient a great deal of pain and annoyance. Marked dullness was observed over the right iliac fossa, in which was diagnosticated an abscess, and immediate operation was advised as a last resort. In harmony with this opinion the writer was sent for, and saw him a few hours later, and confirmed the opinion of Dr. Hyde and proceeded at once with the operation, in which he was assisted by Drs. Hyde and Love, of Shelby, in the presence of Drs. Bricker, Ryal, Sawyer, Sager and others.

I made the usual lateral incision and found an enormous abscess filled with the most fetid and offensive pus, in which was obtained an enormously enlarged vermiform appendix, containing a perforation from which a grape seed had escaped into the abdominal cavity and which we subsequently obtained. It also contained a large fæcal enterolith which had formed above the grape seed, and, from all appearances and the history of the case, had been a long time in forming, and undoubtedly had imprisoned the grape seed all this time, which had finally perforated the appendix lower down and subsequently made its escape into the abdominal cavity.

In addition to this, we found that a quantity of the omentum had become necrotic, and consequently quite a quantity of it had to be removed and will be seen accompanying the specimen.

The ordinary toilet was made, a drainage tube inserted and the incision closed by the method already described. It is almost needless to add that this patient died in a day or two after the operation.

Remarks: This constitutes another grave-yard witness of the danger of foreign bodies in the vermiform appendix, and the destruction occasioned by circumscribed suppuration due to their perforation and escape into the right iliac fossa. From the history of this case we have every reason to believe that this grape seed has been lodged in the vermiform appendix for many years, and had no doubt set up a chronic catarrhal appendicitis, which was still more aggravated by the formation of a large and unyielding fæcal concretion.

There is no question in the writer's mind that, had this case been operated prior to this last attack, the life of this patient might have been saved; but owing to the enormous destruction resulting from long continued delays in operative interference, the vitality of the patient was so exhausted and the destruction of the abdominal viscera so excessive that nothing short of death was left to follow (whether he was operated or not) as his only relief, although it is our firm opinion that an operation even under these circumstances gave the only chance for recovery.

Case VII.—Frank H. T., aged 43, a farmer by occupation, living six miles north of Mansfield. I was called to see him for the first time, March 29th, 1892, and found him with an excellent family history, which in no direction could be traced to the slightest taint of hereditary tuberculosis. The fall previous he was taken with a dry hacking cough, which was soon followed with a pain in the right iliac fossa, which he attributed to a strain from coughing. This cough, however, only lasted a few weeks, when it entirely disappeared, but the pain in the right iliac fossa continued and extended up to the region of the liver. A short time later he was taken down with an acute attack of pain, which was referred to this same region, and for which he was treated by a homœopath, who never gave him any diagnosis of his case, but subsequently very frankly told him he did not understand his case and did not know what ailed him. He quit all treatment for a while and gradually got some better, so much so that he could be up and around, but the pain still continued, until it became so severe that he consulted another homœopath, who treated him for awhile with no better success than his predecessor. He finally went to a notorious quack in the city, who claimed a "dead sure thing" on curing him, but, instead of being cured, he gradually grew worse, and on the date above mentioned the writer was called to see him.

A careful examination revealed an exceedingly red tongue, pulse ranging from 85° to 95°, with temperature but little above normal, appetite poor, bowels alternating with diarrhœa and constipation, stomach irritable, but vomiting the exception, although occasionally occurring. Marked circumscribed tenderness and dullness was found over the head of the cæcum and vermiform appendix. The tenderness, however, extended as high as the liver, but gradually faded out as we radiated to

other parts of the abdominal cavity, although there was more or less tenderness over a great portion of the abdomen.

A careful examination of the lungs revealed nothing abnormal, either by ausculation or percussion, but all his pain was principally referred to the right side and more particularly the right iliac region. With this history and these symptoms, it was my opinion that his trouble originated with the vermiform appendix, and the other parts of the abdominal cavity had become affected secondarily, and, owing to the extremely red tongue and occasional rigors, there was a strong probability of the existence of a small circumscribed abscess having formed around the vermiform appendix. This opinion was more firmly impressed on my mind as the case developed further; but, owing to the many complications which manifested themselves, I was not well satisfied in my own mind as to whether an operation was advisable or desirable under these circumstances. I saw the case again on April 5th and 13th; at the latter date a counsel was held with Dr. J. W. Craig, who confirmed my opinion that operative interference was, without doubt, the best treatment we could give him, for by this time a circumscribed tumor with fluctuation could be distinctly outlined in the right iliac fossa, and which extended well back, producing marked bulging on the right side in the lumbar region. In addition to this, jaundice had made its appearance within the last day or two, leading us to believe that, like Dr. Weir's case, of New York, which we have already referred to, the liver had become involved.

After explaining the dangers and uncertainties connected with the operation, the patient finally decided to submit to an operation, and on April 15th, assisted by Drs. J. Harvey Craig, J. S. Hedges and F. H. Harding, I performed a laparotomy and removed the vermiform appendix, the mesentery of which was found to be tubercular. This rudiment was discovered to be distended with semi-solid fæcal concretions, and was found completely enclosed in a cyst, the size of your thumb, which contained nothing but serum, in addition to the appendix.

I also found, on examination, just before the operation, that the circumscribed dullness, which heretofore had been confined to the right iliac and lumbar regions, had become more diffuse; and on opening the abdominal cavity, I found that the adhesions had in part given way and allowed the serum (which had been confined in this heretofore circumscribed portion of the abdominal cavity) to in part escape into the general peritoneal territory. I found nearly two quarts of this serum, which I carefully drained out, and in addition to this I discovered that the tubercular trouble had extended along the mesentery of the ascending colon and attacked the omentum, and had also attacked the liver.

Evidently, what we found to be a circumscribed tumor was a collection of this serum, which by adhesions had been confined to the right iliac and lumbar regions, but which, just prior to the operation,

had found its way through the walls of these adhesions into the general abdominal cavity; while the icterus I found was due to adhesions of the omentum, which produced a stenosis of the common bile duct. The vermiform appendix was removed, the adhesions around the common duct loosened up as much as possible, but we found it was impractical as well as impossible to remove the omentum or other portions of the abdominal viscera which were involved by the tubercular disease. We contented ourselves with doing what little we could for his relief, and, after washing out the abdominal cavity, we introduced a drainage tube and closed up the abdominal wound; and, whilst there was no possible chance for his recovery, we have the satisfaction of knowing that the operation gave him decided relief. The abdominal wound closed by first intention, and during the remaining seven days of the patient's life he was much more comfortable than he had been at any time for weeks previous to the operation.

Remarks:—This case presents a very interesting chain of symptoms, while the history and report of the case show how easy it is to be misled under certain circumstances as to the exact cause or causes which are producing the disease or diseases of the right iliac fossa, and which, often, only operative interference is likely to reveal the true nature of, which in this case was found to be tuberculosis of the mesentery, with associated effusion, which up to a day or two before the operation was circumscribed, and from which it was natural for us to draw the legitimate conclusion that it was pus, owing to all the symptoms of the septic infection which existed, and the fluctuating tumor which was found clearly indicated in the right iliac fossa.

We have already called attention to the importance of making a clear diagnosis in this class of cases, not that an operation will hasten the impending death which stares the patient in the face, but because little benefit outside of temporary relief can be obtained in tubercular disease of the appendix by an operation. But if you do operate, the patient and his friends should be carefully guarded against expecting brilliant results, which under more favorable circumstances might effect a happier termination.

GENERAL CONCLUSIONS.

First.—Never adopt the rule of making operative interference the last resort in the treatment of disease peculiar to the right iliac fossa.

Second.—The only genuine safety for a patient with a diseased vermiform appendix is to have it placed in a bottle of alcohol for the adornment of some surgeon's pathological museum.

Third.—Early operation in diseases of the vermiform appendix is the only safeguard against recurrent attacks of inflammation, perforation, suppuration and death.

Fourth.—Never wait for suppuration in attacks of acute appendicitis. Such practice is just as sensible as it is to wait for stercoraceous vomiting and gangrene of the bowel before operating in strangulated hernia; for, like in strangulated hernia, procrastination is the thief that has stolen thousands of patients from the physician and surgeon and given them to the undertaker.