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CASES ILLUSTRATING THREE METHODS OF HYSTERECTOMY FOR DIFFERENT INDICATIONS.

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The methods of hysterectomy here illustrated are: (*a*) vaginal; (*b*) abdominal, by ligation with amputation of the cervix; (*c*) pan-hysterectomy by combining the vaginal and the abdominal routes. The indications illustrated are: first, epithelioma of cervix; second, bilateral destructive inflammation of tubes, with metritis; third, small, painful, bleeding fibroid. The cases narrated will illustrate ways in which the treatment of different conditions must be varied; in other words, the operation should suit the case, and the case should not be made to suit any special type of operation.

Case I: *Epithelioma of cervix; Vaginal hysterectomy; Recovery.*—Mrs. R. H, private patient, married, aged fifty-four; seven children, latest eleven years old; three miscarriages; menopause two and a half years ago at the age of fifty-one. The quantity of the monthly flow had gradually increased toward that time, the duration being from five to twenty-one days. After complete cessation for more than two years, a slight irritating bloody discharge without odor was noticed; also pelvic distress, but no sharp pain. No bladder symptoms. I saw her three months after the discharge began.

Examination: Perineum torn partly through sphincter; cervix torn on right side; no eversion, no cystic degeneration. Near the os a denuded area showed three small hard red nodules which bled readily on being touched. The posterior lip showed hardening and infiltration as from malignant disease; the os was slightly excavated, the walls of the canal of an angry red color. A thin band of slightly hardened tissue extended out down and back from the angle of the tear on the left side, which may have been cicatricial after an old cellulitis following the laceration, and was apparently not the hard infiltration of malignant disease. The rectal and vaginal walls were otherwise normal. The uterus, of normal dimensions, was retroverted and freely movable. No secondary involvement could be anywhere demonstrated. Diagnosis, early epithelioma. Advice, vaginal hysterectomy.

After complete sterilization of the neighborhood under ether, the uterus was curetted, the diseased area burned with the Paquelin cautery, and iodoform gauze packed into the canal. The cervix being held by a tenaculum, Douglas's pouch was opened, and gauze attached to a ligature pushed in to keep back the intestine. The incision being carried right and left nearly to the vessels, a running catgut suture caught up the vaginal and peritoneal edges to control bleeding from small veins. The bladder being pushed off by the finger and knife-handle from the front of the uterus, the broad ligaments were tied off with silk and a blunt needle. The ovaries, tubes and uterus came away together, as shown in the specimen. As the omentum

tended to slip into the vagina, two loose catgut sutures drew together the upper edges of that canal. Iodoform gauze in the vagina and a vulvar sterilized pad completed the dressing.

At the end of the operation the pulse was 86 and regular, though the patient had well marked mitral disease. The highest pulse during convalescence was 96, and, as seen by the chart exhibited, the highest temperature was 100.4°. The patient was throughout bright and more comfortable than would seem possible to one not familiar with the average rapid convalescence after hysterectomy by the vagina for cancer.

This case is presented as a type of those in which vaginal hysterectomy is chiefly indicated, in the writer's opinion. The operation is suitable in cases of cancer where the vagina is capacious, and where the uterus has not become greatly enlarged and can be readily drawn down. When the disease has advanced so as to invade the broad ligaments, when glands out of reach are involved, or when it is necessary to work through diseased tissue, I decline to do the operation, as I consider it harmful to the patient. In old virgins the small, tense and atrophied vagina adds greatly to the difficulty, so that the supra-pubic route may be better. For the ordinary pelvic abscess, having its origin in the tubes or ovaries, the operation of vaginal hysterectomy recently advocated by some operators does not appear to the writer to be the best for the future of the patient. The immediate mortality is doubtless low, but the vagina is, like the rectum, a poor

place into which to establish an infected sinus if one ever hopes to have that sinus close permanently from the bottom. The well established principles of the surgery of the ages are not changed by a passing fashion.

CASE II: *Hysterectomy by the supra-pubic route, leaving the cervix; Double pyosalpinx, metritis, old pelvic peritonitis, morphine habit; Recovery.*—The method followed in this case —supra-pubic ligation, amputating and leaving the cervix—is that which is adopted as the method of choice in nearly all cases, *i. e.* for fibroid, septic inflammation, and all other indications except malignant disease in the cervix or endometrium. Leaving the cervix preserves better the normal anatomical disposition of the vaginal vault and pelvic floor; but when malignant disease is present, of course, no uterine tissue can be allowed to remain.

Mrs. I. P., twenty-six years old; hospital case, from a mountainous region. Father died of heart disease, an aunt of cancer. Patient never strong. Menses first at sixteen; quantity always great, every four weeks, lasting seven to nine days, with pain throughout. Had a fall on the ice at the age of fifteen, acute pelvic inflammation following and confining her to bed three weeks. Three children; three miscarriages. Present disabling symptoms date from last miscarriage, three months ago, when she had peritonitis, being in bed five weeks. Since then has bled freely at two periods, the last continuing a month, seven to eight wet napkins a day, with much pain in left side, and inability to walk from pain and soreness in lower abdomen. During

this time the morphine habit was acquired, thirteen "powders" of unknown strength being taken daily. This fact, however, was concealed, as was also the free use of whiskey, until after the operation.

Examination showed a large, tender uterus, firmly adherent in retroversion; much general tenderness; double disease of appendages; exudate from pelvic peritonitis; perineum lacerated; free purulent discharge from endometrium.

Hysterectomy was done through an abdominal incision; both tubes and ovaries were removed still attached to the body of the uterus, as seen in the specimen presented. All the organs were buried in adherent coils of intestine. After these were separated it was seen that the fimbriated ends of the tubes had become closed, the uterine ends presenting the hard, contorted, cordlike form found in infective salpingitis, the hardened and sacculated ampullar ends apparently containing pus. Although these tubes have been largely stripped of adhesions and unfolded, one may yet see how nature works to prevent the escape of tube contents into the peritoneal cavity. First the fimbriæ adhere and form a solid mass; they are closed in by a swelling of the outer wall of the tube extending over the end and gradually contracting at the orifice until the fimbriæ are buried and the end of the tube is smooth and bulblike. Meanwhile the contorted turns of the tube adhere, the outer end often being drawn underneath. This end will then lie buried in tube convolutions, broad ligament, adherent intestine, and exudate, one to two inches from the gen-

eral peritoneal cavity. The uterine wall in this specimen is doubled in thickness from inflammation and subinvolution.

Hysterectomy was done because the uterus would always have remained sore, large, and displaced, a source of discomfort and discharge from endometritis.

The patient made an excellent recovery, the abdomen remaining flat or scaphoid, but the morphine habit gave trouble. As stated, this habit was not known, and in consequence no morphine was given after the operation, as it would otherwise have been, to maintain her normal state. The night after operation she demanded morphine, threatening to "get hysterics" if it were not given; being refused, she proceeded to get them, screaming like a wild animal almost incessantly for five hours, throwing herself about the bed, requiring restraint to keep her in it. She beat her head with a basin, and repeatedly went into a position of opisthotonos, with dilated pupils and other signs of hysteria. Meanwhile the pulse was greatly disturbed, though the temperature remained unchanged. Probably the integrity of ligatures was never so sorely tested after hysterectomy, but they stood the test. The patient having begged piteously for her hand-bag, it was examined and found to contain morphine and whiskey. She now confessed to the morphine habit, and was given a quarter of a grain hypodermically every four hours. There was no further trouble except a slight outbreak of hysteria on the following night. The morphine was gradually cut down, and stopped by the end of the third week. The patient herself, be-

ing free from all pain, requested its discontinuance some time before it was thought wise to entirely give it up.

This case furnishes one instance in which it was thought wise to remove the uterus in addition to the appendages. It is not the writer's custom to do this in every inflammatory case. He has had a number of cases of removal of both tubes and ovaries for destructive inflammation where the uterus was not seriously diseased; complete restoration to health has continued after several years. In cases, however, where the pelvic floor is relaxed, where the uterus is in consequence displaced, or where, especially in gonorrheal cases, there is marked inflammation of the uterine tissues or subinvolution, it seems wise to remove the uterus also; considering it as a muscular mass deprived of function, without subjective influence on the mind or character, useless after the destruction of the appendages by inflammation, and a source of distress from its displacement. It is customary to obtain permission from the patient to use the necessary judgment after the abdomen is opened, and this judgment is exercised in favor of leaving the uterus in place where the condition of the patient would make further procedure risky, or where the uterus itself is well supported, small, and comparatively healthy.

CASE III: *Pan-hysterectomy by the combined vaginal and abdominal routes for small, painful, bleeding fibroids; Recovery.*—Mrs. H., aged forty-eight; a private case from the interior of this State. One child nineteen years ago. Menses regular, one to three days, every five

to six weeks, and not excessive up to ten months ago, when she began to bleed freely and continued to do so without any cessation for five months. Pain, which had previously been irregular, became constant at the same time, being most severe in the left side of the abdomen, and passing through both hips. Exacerbations of pain, apparently originating about the neck of the bladder, were of great severity, causing nausea and sweating. Vesical and rectal tenesmus was associated with these attacks. She had gradually acquired a morphine habit and was now taking one-fourth of a grain a day.

Examination showed a torn perineum, with relaxation of the vaginal walls, especially the posterior. The uterus was 4½ inches in length, retroverted into the hollow of the sacrum, not adherent, and in the first stage of prolapse. A sessile fibroid knob, about one inch in diameter, sprang forward from the uterine wall, within the area of the bladder attachment, a little to the left of the median line. This knob consequently made pressure upon the bladder-wall. The ureteral catheter when introduced showed that the left ureter was displaced by this knob, passing upward and then outward over its base in the sulcus at the junction of the knob with the uterus. There was much tenderness at this point, and there seemed no doubt that traction upon the ureter was an element in the bladder distress. The problem was, to find the surest and safest way of curing the patient of her bleeding and pain, as well as of the bearing down and general pelvic distress due to the laceration, and consequent

retroversion and descent of the uterus. Perineal repair alone would have failed to cure the retroversion and descent of a large, heavy uterus; to have suspended the uterus in addition would have solved the problem of uterine support, but would have involved opening the abdomen. Here was a woman aged forty-eight with a fibroid, small as it was, causing five months' constant bleeding, the pain driving her to morphine. Experience has shown that the menopause gives very uncertain relief in such cases, even after it comes. Electricity checks bleeding but temporarily. It was decided that, since operation was necessary in any event to cure the tear and displacement, to do less than a hysterectomy would be unjustifiable temporizing; the prospect of cure offsetting the slightly increased risk. Indeed, the patient herself preferred death to a continuance of her suffering.

The operation of total hysterectomy from above in a patient as stout as was this one is often a matter of some difficulty when the region of the cervix is reached. Consequently the removal was begun by the usual early steps of a vaginal hysterectomy. The uterus did not come down well, and, owing to the peculiar relations of the ureter above the fibroid nodule, the operation was completed from above through an abdominal incision, by ligating off the broad ligaments and dissecting down the bladder in front. As shown in the specimen presented, the ovaries, tubes and uterus were removed entire. Gauze was passed into the vagina from above, and the peritoneum closed over it and

over the broad-ligament stumps, the abdominal wound being closed without drainage.

During the after-treatment the patient's accustomed quantity of morphine was daily given until convalescence was well established, when it was gradually diminished and finally stopped. This is a most important point in the management of operations on opium *habitués*. The drug must on no account be withdrawn at the time of operation, but enough must be given to keep the system at its normal level. Even then they are dangerous subjects for major operations. Surgically the recovery was uneventful, the highest temperature being the absorption rise to 100.4° on the second day, as shown by the accompanying chart. The wounds were absolutely aseptic and healed primarily. She returned to her home free from pain, and taking no morphine. She will, of course, have no more bleeding.

As in all opium cases, the mental condition required careful management, hyoscine and potassium bromide being the drugs relied upon to secure quiet. Such patients require careful nursing, being subject to hallucinations, very crafty and untrustworthy, and liable to get out of bed.

Total hysterectomy by a combined vaginal and supra pubic method is seldom called for, but it may be done where, as in this instance, the patient is quite fat, and where neither the vaginal nor the abdominal route alone gives proper access to the parts.

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