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A CLINICAL STUDY OF THE OPERATIVE FINDINGS AT  
SECONDARY OPERATION.\*

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IT is with a feeling of great hesitancy that I appear before you, a body of skilled gynecic surgeons, to present these few desultory remarks upon some of the unfortunate results consequent upon pelvic surgery; yet the number of patients who have applied to me, seeking relief during the past five years, who have been previously operated upon for pelvic or abdominal conditions, is so large that we have come to the conclusion that there is frequently an error in diagnosis, technic or judgment on the part of the surgeon at the primary operation.

Of the 139 women who form the basis of this study, forty-two have been previously operated upon by the writer, while the remaining ninety-one are the products of other surgeons.

The living pathology in these cases, as it was observed by me on re-opening the abdomen, is my excuse for the deductions here presented. The surgeon, in order to accomplish a gynecological cure, must first of all attempt to restore the normal anatomical relations which existed or which should exist between the adjacent structures in the pelvis prior to injury, inflammation, or the advent of new-growths. In doing this, whether the surgery be reconstructive or ablative, we must constantly keep in mind the

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natural processes by which nature accomplishes this repair. These cases may be grouped in the following classes:

First, where an incomplete operation has been done or an incomplete diagnosis made.

Second, where bad judgment was shown in the selection of the primary operation.

Third, where conservation of an ovary or ovaries has been done, and the retained organ has become the site of chronic inflammatory and cystic changes.

Fourth, where conservative operations on the tubes have been employed.

Fifth, where abdominal drainage has been used with resulting ventral hernia.

Sixth, where a poor or hasty toilet of the peritoneum has been made.

Seventh, where troublesome visceral adhesions have occurred, even though a proper and careful technic has been followed, and finally, that group of patients who remain unrelieved, owing to an improper or neglectful after treatment.

In the first group we must consider the work done by the occasional operator, or the general surgeon, in his excursions into the field of gynecology. The man who suspends a uterus without restoring the cervix, or the woman's pelvic floor, or who takes out an appendix in a woman, without exploration of the pelvis, or who takes out a single tube in a gonorrheal or tubercular salpingitis, or who fails to clear the pelvis of sigmoidal adhesions, or who after removing both tubes, and consequently shortening the broad ligaments, omits to hold the uterus forward by suspension, or some round ligament operation, or fails to remove an appendix pointing south, when he has taken out the right tube and ovary, and has thus interfered with the appendicular circulation, or fails to examine the cecum for pericecal adhesions, and the right kidney and gall-bladder, or the broad ligament for varicosities in right-sided abdominal pain.

In this class there have been twenty-seven cases. Three presented a long peritoneal band at the site of the previous suspension, which allowed the uterus to fall back in the pelvis. A restoration of the pelvic floor, amputation of the cervix, and a Webster-Baldy operation has restored these women to perfect health.

Eleven had had their tubes removed, without any effort on the part of the surgeon to retain the uterus in a forward position.



In these we found the uterus retroverted and retroflexed. The ovaries which were attached close to the cornua were carried down with the descending fundus, and there were more or less intestinal and omental adhesions present in the vesicouterine space. Freeing of the uterus, ovaries and the pelvic peritoneum from their adhesions, and strongly anteverting the uterus by a posterior suspension, has changed these women's invalidism into health.

Four applied for the relief of persistent right inguinal pain following operation, and presented on abdominal incision omental adhesions to the stump of the right tube, an angulated appendix, and pericecal bands, the relief of which, with the removal of the appendix, gave the desired result.

Six had had one tube removed, four for a gonorrheal, and two for a tubercular infection. The remaining tube had become the focus from which repeated attacks of peritoneal inflammation had arisen. A gonorrhea which has passed through the uterus into the tubes, always leaves some bilateral involvement. Removal of the remaining tube with suspension of the uterus has relieved these patients.

Four women presented themselves, complaining of persistent pain in the left lower abdominal quadrant, who on reopening the abdomen, showed a fixed sigmoid, due to adhesions to the stump of a previous oophorectomy, and the posterior surface of the broad ligament. Freeing of these adhesions, covering the raw surfaces with peritoneum, holding the sigmoid out of the pelvis by the injection of normal salt solution, with the patient in the Trendelenberg posture, and the maintenance of the patient in this position for the first forty-eight hours after operation, has resulted in a satisfactory recovery and relief of pain.

One patient complained of the same pain from which she had suffered prior to her primary operation (the removal of a chronic appendix), which had been made some six weeks before coming under our observation. On reopening the abdomen an ovarian cyst, the size of an orange, with a twisted pedicle, was found incarcerated in the pelvis, firmly adherent, pushing the uterus forward and to the left. The removal of the tumor relieved her pain.

Under the second heading, where bad judgment was used in the selection of the primary operation, re-operation has disclosed multiple fibromatous growths of the uterus fourteen times.

These tumors were of the hard encapsulated variety, and located in the body of the uterus.

In tracing back the histories of these patients, all of whom, with two exceptions, were previously operated by myself, it has been interesting to note that they were apparently ideal cases for myomectomy, presenting at the time of operation from two to five distinct, well-defined subserous or interstitial growths. All were in comparatively young women.

This observation has caused me of late years to limit myomectomy to subserous fundal growths, with narrow bases, or single submucous growths, with a more or less well-defined pedicle in the body or near the fundus, for not only is myomectomy a more dangerous operation than hysterectomy, when dealing with interstitial growths, encroaching upon the endometrium, owing to the circulatory changes which occur in the heart, blood and blood-vessels, making sepsis, hemorrhage, thrombosis and embolism more liable to occur, but we have noted clinically that the disturbance of the uterine circulation, subsequent to the enucleation of a fibroid growth, and the inflammatory changes which necessarily take place in the uterine musculature during the process of repair, stimulate quiescent fibroids resting in an intramural location, to further growth, just as pregnancy supplies the necessary circulation for the rapid development of a fibroid nodule. This is particularly true when the growth is situated in the body of the uterus, between the ovarian and uterine arteries. Another interesting observation has been made, *i.e.*, that if these women become pregnant shortly after myomectomy, further fibrosis seems to be checked, while on the other hand, if they are not so fortunate, sterility continues and other tumors are likely to develop.

It has been noted that interstitial fibroids near the fundus not infrequently obstruct the course of the intramural portion of the tubes, making the tube more tortuous and diminishing its lumen, thus obstructing the passage of the ovum in its descent through the oviduct. Two tubal pregnancies of which I have records were immediately due to this obstruction.

In six women another instance of bad judgment was shown in the retention of an infected uterus, after the tubes and ovaries had been removed, or the retention of an infected cervical stump, when a supracervical hysterectomy has been done for chronic bilateral inflammation. This has been the cause of more or less persistent metrorrhagia, or annoying leukorrheal discharge,



which has compelled the patient to seek relief by secondary operation.

The masterly paper of Hyde has shown us that recurrent attacks of vaginitis and urethritis develop, that the suspended uterus frequently remains subinvolved and tends to prolapse and may become incarcerated and adherent in the pelvis. That backache is more constant, that convalescence is more complicated, and that the retention of this useless organ, when its functioning power has been removed, is a menace to the woman's health, rather than an advantage, not to speak of the possibility of degenerative and fibroidal changes which may take place within it.

The lesson learned from these observations has been:

First, to always remove the uterus in double adnexal disease, when such disease is sufficient to demand total ablation of the appendages.

Second, that when this step is taken we should operate in such a way as to remove the entire endometrium of the cervix.

You may ask, Why do I retain the cervix at all? Because of the advantage of retaining an anchorage for the uterosacral ligaments, to which we can attach the round and broad ligament stumps, and so overcome the tendency to prolapse.

Many of these women have suffered injury of the vulvovaginal orifice, and a perineoplasty, because of the time consumed, often cannot be done at the same sitting. We have found that retention of this stump in a high position overcomes the cystocele. It does not, however, have any effect on, or diminish the amount of rectocele present, which can only be corrected by re-establishing the relation of the levators to the rectal wall.

The third class is where conservation of the ovaries has been attempted, and the retained organ has become the seat of chronic inflammatory and cystic changes, and this includes the largest number of uncured patients seeking relief. Fifty-one have applied for reoperation.

The abdominal findings have been more or less consistent. The conserved ovary has presented further cystic changes, more or less completely involving the entire structure, always attended by a low type of thin peritoneal adhesions, most difficult to handle.

In some patients it is surprising to note how soon after the primary operation cystic changes may occur. In one patient, where resection of an ovary had been made, who was reoper-

ated three days later, for intestinal obstruction, we were amazed to find that a thin-walled cyst the size of a lemon, which necessitated its removal, had developed in the conserved ovary. On examination it was shown that this cyst had developed from a deep-seated follicle, in which the efferent vessel had been occluded by the insertion of the ovarian suture.

It is our custom only to attempt to conserve such ovaries as are the seat of monocular cysts, fibromyomatous or dermoid changes, when they present a definite healthy hilum after the enucleation of the tumor.

It may be mentioned that in our experience the adhesions associated with thin-walled ovarian cysts, which have formed upon a resected ovary, are dense and extensive. It would appear that nature attempts to isolate the conserved portion of the ovary by an adhesive peritonitis. The sigmoid and omentum are particularly prone to become attached to the suture line.

Patients who have been subjected to an ovarian resection and in whom adhesive inflammation has followed have either presented a gradually developing amenorrhea or a persistent metrorrhagia, often uncontrollable by means other than hysterectomy; I therefore take the position which I maintained in a paper before the American Medical Association in 1909, in which I stated that multiple cystic degeneration was the least favorable to conservative procedures, while ovaries containing single retention cysts, cysts of the corpus lutea, large monocular cysts, fibroids and dermoids, may be resected with considerable hope for the patient's continued well-being, provided care is taken to so place the ovarian suture as not to constrict the efferent circulation. The conserved portion of the ovary must be placed in such a position in the pelvis that its circulatory equilibrium is maintained. Unless these two details are observed, resection will result in further cystic degeneration.

The fifth class includes four women applying for re-operation, because of large ventral hernia, who had had abdominal drainage at the primary operation, and presented the following intra-abdominal conditions: The omentum was firmly adherent to the abdominal scar, the sigmoid was displaced downward and attached to the pelvic peritoneum and the back of the uterus, while cecal adhesions closed the pelvis on the right side. Thus the entire pelvic cavity and its contents were walled off by the results of adhesive inflammation. The fascial opening varied in size and shape from a small circular collar 1 or 2 cm. in diameter to



a large ventral hernia 7 or 10 cm. in diameter, limited above by the umbilicus.

It is interesting to note that the greatest number of adhesions had occurred in those cases where hemostasis had been defective and where the oozing had to be controlled by pack and drain, while in those cases where infection and the liberation of pus had necessitated the isolation of the pelvis, with gauze for drainage, the results of the adhesive peritonitis which had protected the patient, had been largely absorbed.

We are combating the occurrence of both adhesions and hernia in the cases which require drainage, by two simple adaptations: First, where drainage is necessary because of the extent of the adhesive surface, the exposure of raw surfaces or uncontrollable oozing, it is our habit to fill the retropelvic cavity with zinc oxide packing or washed iodoform gauze, bringing the end out through a wide opening, not a stab wound in the culdesac; then lay the sigmoid over the pelvic pack and bring the omentum down, spreading it out over all of the intestines except the sigmoid, and tuck it under them at the pelvic brim, frequently retaining it in this position by several fine sutures, uniting it to the posterior lateral walls of the pelvis and outer edge of the broad ligament, near the pelvic wall. With the patient then placed in the Fowler position, and the gauze left in long enough for it to be completely isolated by exudate, we have found that no unfortunate complications follow.

Second, where it is necessary to use drainage by the abdominal route, as a tube or cigarette drain, we are careful never to carry this drain through the wound itself, but through a stab wound incision, remote from the line of abdominal suture, and we have found that by adopting such a procedure the integrity of the original wound is maintained.

One further point in regard to hernia, and that is the site of the incision and the mode of its closure. For intrapelvic work, no incision gives better access to the uterus and adnexa than the transverse suprapubic incision through the skin and fascia, the longitudinal separation of the recti and the transverse incision of the transversalis and peritoneum.

In the suture of such an incision we unite the transversalis by a continuous catgut suture, and run the recti together with plain catgut; the anterior sheath of the recti is lapped with a mattress stitch of chromic catgut which is reinforced by lapped mattress sutures of silkworm gut, which pass through the fascia, fat and

skin. These are tied over a gauze bolster. This secures for us a wound which even with moderate suppuration remains firm in its entirety.

I feel that the few extra minutes which it takes to close a wound in this way is justified by the results which we obtain. In using the transverse incision, the patient's convalescence is made vastly more comfortable. No pain in the wound is ever complained of if a pillow is placed under the knees, and there is moderate elevation of the shoulders.

The sixth class includes those cases where a poor or hasty toilet has been made, and must again include the product of the inexperienced, careless, or would-be speedy operator, who, either from a lack of knowledge of surgical principles or an inability to apply them, leaves his operative field with oozing unchecked, injuries to the bowel uncovered, rents in the peritoneum unsutured, or deforms the pelvis by not reestablishing the normal anatomical relations between the pelvic viscera.

Of the eight women coming under this class, three presented a lateroversion of the uterus, due to shortening of the broad ligament. One from a cellulitis occurring within the folds of the broad ligament, following the enucleation of an intraligamentous fibroid, in which complete hemostasis was not obtained. Two from taking off the tube and ovary in mass, with a ligature of heavy braided silk, thus bunching the broad ligament and shortening it. Four women presented abdominal fistula, three communicated with the bowel, while one was due to an unwithdrawn drainage pack.

One patient was the subject of a ureteroabdominal fistula. The fistulous tract was surrounded by an extensive exudate filling the left half of the pelvis. The left kidney was enlarged and tender from an ascending colon bacillus infection through the injured ureter. Nephrectomy has completely relieved the aforementioned conditions, and the patient is passing a comfortable existence.

There have been three women apply for relief from symptoms consequent upon troublesome visceral adhesions. One followed an interval appendix operation, while the other two resulted from the removal of thin-walled cysts of the ovary. All were perfectly clean cases. No pads were used in the abdomen. The intestines were not disturbed or handled, yet upon re-opening the abdomen, adhesions were general. In the appendix case the omentum was firmly attached to the entire length of the scar, the head of



the cecum and the right lateral pelvic wall, and coil after coil of intestine was found agglutinated.

In both of the cyst cases, the pelvic contents were literally matted together by firmly organized adhesions.

It is the practice of many surgeons to turn over the after-care of their operative cases to their assistants, who may be careless or inexperienced. Successful operative cures depend largely upon the detail of after-treatment. A uterus which has been the seat of subinvolution or metritis needs weeks of local treatment before its weight is diminished, even after curetment and the repair of puerperal injuries.

Resected ovaries frequently enlarge and become sensitive in the first weeks after operation. Rest, tampon, douches, and abstinence from coitus may be required to bring them to the normal.

The success of a retroversion operation depends largely on the after-treatment, *and gynecological patients as a class need proper hygiene, exercise and tonics.*

Pelvic exudates following operations for tubal infections need weeks of observation and treatment before the thickened ligaments can properly assume their functions, thus it will be seen that many of our failures are due to our omissions.

Twenty of the patients who form the basis of this study come under this class. Seven presented enlarged, sensitive uteri with a leukorrheal discharge which yielded to local treatment. Six showed large sensitive ovaries; five had exudates at the top of the broad ligaments. Two on whom suspension had been done, showed a tendency to sag in the pelvis.

From this study I venture to draw the following conclusions, *i. e.*, That our failures may be attributed to:

First, to imperfect or incomplete diagnosis.

Second, to incomplete operations.

Third, to badly chosen procedures.

Fourth, to hasty toilet.

Fifth, to insufficient after treatment.

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