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THE ULTIMATE RESULTS OF OPERATIONS FOR REMOVAL OF THE UTERUS OR ITS APPENDAGES.

Of the achievements of surgery during the past twenty years none have been more far-reaching in their result than those which have had to do with the uterus and its appendages.

Each organ and region of the body that has yielded successful results when subjected to surgical attack, has likewise its list of failures and limitations to be registered, which is nothing more than saying that surgery is not carpentry nor blacksmithing, that human bodies are not chemical retorts, that all the processes of life cannot be weighed or accurately calculated in any given case.

Pelvic surgery likewise is subject to limitations similar to those which attend surgical work in other parts of the body. This branch of surgery, however, presses itself upon our attention more forcibly and continually than some others, because of the frequency of the conditions which call for its intervention.

It is so recent in its growth, and its advances and triumphs have been so marked, that until quite recently the professional mind has been preoccupied with the new possibilities which each decade has been converting into actualities. The professional life of many surgeons, who count themselves still young, runs back beyond the year 1858, when Spencer Wells began his career as an ovariotomist. Not longer ago than early in the seventies is it that the importance of chronic inflammatory diseases of the uterine appendages was recognized by Tait, and he entered upon his forcible and fruitful work of operating for their relief. It was in 1872 that before the Medical Society of the County of Kings, Marion Sims read a brilliant paper, in which he stated his convictions as to the role played by septicæmia in causing
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Deaths after ovariomy, and made suggestions as to the use of drainage to prevent it. In the same year, John Byrne communicated to the same society his experiments in the use of the electric cantery in destroying malignant disease of the uterus. At the close of this same in 1879, Czerny, of Heidelberg, began to perform surgical hyster fruitful decade for, uterine cancer.

The decade of 1880–90 may properly be said to have been a period during which in the domain of pelvic surgery, a careful testing and sifting of diagnostic significations, operative indications and technical methods has been going on. It is an omen of promise for the future that to-day on every hand surgeons are bringing together the ripened experiences, so that out of their aggregation more satisfactory conclusions may be reached as to the real benefits which the surgery of these days has to promise to those suffering from pelvic disorders.

In March, 1890, Coe, in a paper before the New York Academy of Medicine, called attention to the fact that recovery after operations for the removal of diseased uterine appendages was by no means always synonymous with restoration to health, and that in some instances sequelae were left which were more intolerable than the original conditions to relieve which the operations were performed. In April, 1891, the French Congress of Surgery devoted a session to the consideration of the Remote Results of the Removal of the Uterine Appendages, being favored with memoirs on the subject by Lawson Tait, and by Richelot. At the recent Congress of American Physicians, in September, 1891, the same theme was discussed, having been introduced by a paper on the subject by Lusk. Numerous additional communications on various aspects of this subject have recently been made to other societies or have appeared in various medical journals. The theme is thus seen to be one of present interest, as well as of great importance.

The accepted indications which, in the view of most if not all surgeons, now justify the removal of the uterus or its appendages may be outlined as follows:

**Exirpation of the Uterus.**—This procedure is indicated

- **a,** in cases of inveterate and intractable prolapse of the uterus;
- **b,** in cases of intractable inversion of the uterus;
- **c,** in certain cases of myoma,
in which despite the energetic and intelligent use of other measures, the tumor continues to grow and causes serious disabilities or suffering from pressure effects, or provokes persistent serious hemorrhages, or undergoes cystic degeneration, or develops serious septic conditions; 
d, in cases of malignant disease of the uterus as long as the disease remains limited to the uterus itself. It should be noted that many eminent surgeons limit this indication for hysterectomy to those cases of malignant disease in which the body is invaded, while for those in which the disease is limited to the cervix, an amputation of the cervix, supravaginal by the knife, supplemented by the cautery, or by the cautery knife alone, is substituted; 
e, possibly in cases of suppurating pelvic peritonitis, in which the uterus and appendages are blended together in a mass of adhesions that cannot safely be separated when reached through an abdominal incision, and in which the removal through the vagina of the uterus by morcellement (the method of Pean and Segond) gives abundant access to multiple foci of suppuration and ensures subsequent adequate drainage.

Removal of the Appendages.—Ovarian neoplasms constituted the first established indication for removal of a diseased appendage—to this are now to be added:

b. Uterine myomata attended with serious menorrhagia.
c. Chronic and intractable inflammation of the ovary and Fallopian tube, attended with pain and disability.
d. Suppurative inflammation of the Fallopian tube, with retention of septic products within the distended tube.
e. Marked nervous disturbances, provoked by each recurrence of menstruation.

The question of primary mortality is only indirectly concerned in the present inquiry. The perfected technique of to-day, added to accumulated experience in the management of the ever-varying complications which distinguish individual cases, has reduced to very small proportions the direct danger to life of these operations when done by gentlemen who are adepts in the one and furnished with the other. Thus Tait claims to have reduced his death rate after operations for removal of the appendages to less than 3 per cent. Wylie claims a similar low mortality in his last 300 cases. Lusk lost but
2 out of 65 patients operated upon similarly. Pean reported 60 operations of hysterectomy for the relief of pelvic suppurations without a death, and Segond has reported 42 similar cases with but 4 deaths. In vaginal hysterectomy for cancer, the recent experience of a number of continental operators (Leopold, Kattenbach, Ott, Pean) shows a mortality of less than 5 per cent.; a favorable showing which is equalled by the results of Cushing, Wylie and Krug on this side of the Atlantic.

The proportion of absolute recoveries, meaning thereby the relief of the pains and disabilities of disease and restoration to a life of comfort and usefulness, is by no means so great.

Coe, in his paper already referred to, dwelt with emphasis on subsequent intra-pelvic indurations and adhesions, resulting from localized peritonitis, and causing persistent pelvic pain, uterine congestions (with or without pseudo-menstruation), vesical and intestinal disturbances, due to intestinal adhesions and cicatricial tractions. Subsequent fatal intestinal obstruction is not an unknown result of such adhesions.

Tait states that ablation of the appendages, in cases of chronic inflammatory affections thereof, often does not bring about immediate relief to pain, but adds the reassurance that this pain rarely persists for more than a twelvemonth, though for a time it may have caused much disappointment to the patient and a lot of trouble to the surgeon. Valuable observations on this point have been made by Lee, who has brought together full and accurate reports of the conditions during a period not less than five years after operation of 36 cases of removal of the appendages. In five of these cases relief from pain continued at the end of that time still quite imperfect; in four more, though the relief is considerable, notable pain still persists; in two instances it was not until after the lapse of two years that the pain was relieved; in four cases relief was obtained after one year; in six, within periods varying from two to six weeks; thus leaving only four out of the whole number in which immediate complete relief was experienced.

This persistence of pain for some time after operation accords with my own personal experience. Within the past two years I have been compelled to remove the appendages for the relief of chronic
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inflammatory conditions in four instances. In two of these the adhesions were dense and extensive, making the operations complicated and severe; in two the absence of such complications rendered the operations facile; all recovered excellently from the operations, but all continue to assert that their old pain is not relieved. In two of these cases a life of constant pain had been endured for nine and twenty-two years respectively before operation. The pain habit—for there is such a thing—demands time for its abolishment in such cases; the removal of the local disease, essential and important as it is, is but the first step toward ultimate recovery. I think that I have reason to believe from the reported experience of others that ultimate relief will yet be acknowledged by all these patients. I am encouraged to this belief by the result in a case not included in the number above referred to, in which I recommend a large cysto-adenoma of the broad ligament; the enucleation of such a growth from between the layers of the broad ligament leaves behind local anatomical conditions somewhat similar to that remaining after the enucleation of adherent and distended tubes and ovaries. In the case in question not only was the ovary and tube on the side of the tumor removed with the tumor, but inspection showing that the ovary was the seat of extensive cystic degeneration it was also removed. The patient made an uncomplicated and rapid recovery from the operation, but for nearly two years thereafter she continued to complain of severe pelvic pain, apparently in the intra-pelvic cicatrix left by the ablation of the tumor. But quite recently she presented herself for examination with the agreeable intelligence that at last her pains had disappeared.

Allusion, at least, ought to be made to certain occasional sequelæ which in some cases are unavoidable, and in others are referable to defective technique, and which are likely to diminish in frequency with increase of skill in operators. I refer to herniae forming in the cicatrix of the wound in the abdominal wall, to fistulæ from ligatures that have become infected and remain a source of suppurative inflammation within the pelvis for indefinite periods; to fecal and urinary fistulæ which in rare cases result from persistence in attempts to separate dense adhesions to intestine or bladder. Tait says that he no
longer ever permits himself to be checked from breaking adhesions by
the fear of causing a rent either of the bladder or of the intestine,
although in many cases he has seen to form and to persist for several
months urinary and fecal fistulae, because he has always been ulti-
mately successful in closing such fistulae. Whether an equal success
shall attend the efforts of other operators is a matter on which testi-
mony is yet to be accumulated. I cannot think, however, that it can
ever be generally felt that rents into the intestine or bladder, compli-
cating the enucleation of inflammatory masses within the pelvis, are
not complications both formidable and to be dreaded, and that, even
if immediate danger to life is averted, the remote results of consequent
adhesions, undue traction, and the dangers of secondary operations,
must entail much of suffering and disability and peril.

Mental Disturbances are undoubtedly among the possible
ultimate sequela of the removal of the uterine appendages. How
many, if any, instances of insanity, or morbid mental depression post
operationem are fairly referable to the operation itself, is difficult to
determine. Certainly in not a few instances some warping of the
mind has already resulted from the long continued suffering which
patients have undergone before being submitted to operation. In some
temperaments an exaggerated idea of the damage which they have
received as individuals, by the loss of their ovaries, may conduce to
intensification of such mental disturbances. In most instances the
lapse of time, the subsidence of pain, the improvement in general
health, and the influence of reassuring advice suffices to dispel this;
possibly in very exceptionable cases the unstable mind may become
pushed over into confirmed insanity. Certain mental eccentricities and
unevennesses of temper are accepted as the frequent natural attendants
of the establishment of the menopause. Now from these nervous mani-
festations the artificial menopause is not free; but these disturbances
are transient in their nature. Aside from these, I have been unable to
find any observations which convince me that by the loss of her uter-
ine appendages, a woman was made especially susceptible to the de-
velopment of mental alienation, or to make this possible remote con-
sequence a matter that should have any weight in determining in a
given case whether the appendages should or should not be removed.
Sterility is, of course, a result of the loss of the uterus or of the ovaries. Perhaps a way to put it more consistent with the facts of the case is, that in the presence of the conditions in which removal of the uterus or its appendages is required as a therapeutic measure, fecundity is not restored by it. This latter way of putting it is more true to the facts in all cases except those of general neurosis, which are sometimes benefited by castration. In such cases, however, the loss of their power to procreate is not without its compensations from the view point of humanity.

The possibilities of marital congress, destroyed by disease, except under the penalty of great pain, are restored, as a rule, by the operations in question. The effects of the loss of the appendages upon the sexual appetite has been the subject of much inquiry. The weight of testimony seems to me to be that whatever the effects may be they are indirect, through the general changes which attend the menopause that has been induced. The lapse of some years must be required to secure the full adjustment of the economy to the changed conditions of life, whether the menopause comes in the order of nature or is induced by the surgeon. In Lee's report previously referred to, there is a systematic attempt to give the required information after the lapse of a number of years; but he has been able to obtain the needed data in only 11 cases—of these, in 8 he reports the sexual appetite to have been unaffected; in 3, to have been diminished. Here, again, in much that has been said, the subject has been approached from the wrong direction. In the cases in which a properly conservative surgeon would advise an operation the sexual appetite no longer exists; in the inflammatory cases the pain which the marital approach causes is so great as to preclude the act altogether. It would be more true to the facts to say that in the great majority of cases the ultimate effect of these operations is to restore the sexual sense to its normal condition, but that in a certain minor proportion of cases this appetite does not return. In any event, the point seems to me to be one only of curiosity, and to have no practical bearing in influencing surgical work.

The recurrence of malignant disease after removal of the uterus or its appendages is subject to the same laws which govern such disease
when appearing in any other part of the body. While the female breast is the most frequent seat of malignant disease of any organ or portion of the body, the uterus is nearly as susceptible, the proportions of carcinoma, according to the tables of Williams (Annals of Surgery, Oct., 1891), being as 6 to 7. The ovary, though rarely the seat of primary attack, is not wholly exempt—the proportion of primary ovarian to uterine carcinoma being as 1 to 60. In sarcoma, however, the proportions are reversed—comparatively rare in either the uterus or ovary—the proportions are as 12 of the ovary to 1 of the uterus. The breast, however, still exhibits the greatest susceptibility in the proportion of 50 of mammary to 1 of uterine sarcoma.

The best statistics as to the cure of malignant disease in other parts of the body are those that pertain to the lower lip and to the breast. Butlitin, in his work on "The Operative Surgery of Malignant Disease," grants 160 survivals for three years and over, without recurrence, out of 424 patients operated upon for carcinoma of the lower lip, a rate of a little over 38 per cent. Dennis claims 30 per cent of survivals for three years and more, without recurrence, in 81 cases of carcinoma of the breast operated upon by himself. It is not probable that the operative work of the future will show any better results in surgical contests with cancer in any part of the body than is represented in the figures just given, until some remedy against the constitutional condition which underlies the development of all cancer, and which too often contributes to the development of this disease in many patients who have passed even the three-year limit, which is now generally—though in my opinion wrongly—accepted as indicative of the absoluteness which the primary local disease had been extirpated.

Careful and unbiased students must accept with much reservation any claims that are made for operations—whatever their character—for removal of malignant disease of the uterus or appendages, whose ultimate results are asserted to be better than those noted above as to the breast or lips. The careful surgical statistician of the present and of the future is compelled to exclude from all consideration in his studies and in his conclusions every case in which the character of the diseased tissue removed has not been examined and certified to by
a pathologist of recognized position. The lack of such pathological testimony requires us to reject a large proportion of the reports that have hitherto been made of the results of operative work in this field with respect to their value as data upon which to base a decision as to the method of operating most likely to secure the best ultimate results.

Equal importance, from the practical standpoints of the choice of operative methods and the ultimate results, attaches to accurate and complete statements as to the extent of the disease present in the cases submitted to this or that operation. The difficulties which attend attempts to properly compare groups of cases subjected to different methods of treatment are so insuperable, the sources of fallacy are so many, that the rational philosophical surgeon will seek rather for the data upon which to found his judgment as to the value of operative methods in his knowledge of the natural history of cancer, its methods of growth and dissemination, and well established general surgical principles.

In the treatment of cancer of the uterus the operating surgeon is continually prevented from indulging even the hope of securing any permanent ultimate good result for his patients by the state of advancement which the disease has been permitted to attain before he sees the case at all. For instance in my own experience, out of the last 20 cases of cancer of the uterus that have come under my observation, in 17 the disease had already spread manifestly into the adjacent pelvic tissues, and nothing but palliative treatment for a brief time before the inevitable death was possible.

Of Carcinoma of the Ovary, I have one interesting observation to record in the person of a girl of twenty-five years of age, who two years ago presented herself to me with a large solid abdominal tumor, whose upper border reached up to a point midway between the umbilicus and the xiphoid appendix. She knew it had been growing for two years, and probably longer. I operated without delay, the chief complication of the operation was an area of dense adhesions which had formed between the upper anterior surface of the tumor and the abdominal wall; the right ovary proved to be the seat of the growth, which subsequent histological examination revealed to be a carcinoma,
especially rich in cell constituents. The pathologist in submitting his report predicted a speedy recurrence. The patient made a good and prompt recovery from the operation. She resumed her work as a dressmaker, which for a period of two years since she has continued to perform. Within a few days, while preparing this article, I called upon her, found her still engaged in work about her house, cheerful and apparently unaware that there was anything serious the matter with her, but inspection revealed her anterior abdominal wall to be the seat of multiple scattered carcinomatous deposits, the most extensive being in the region of the adhesions that had previously existed with the tumor. In the left axilla was a large mass of enlarged glands.

The inevitable fate cannot be delayed many months, I think, but to the credit of the operation must be scored the more than two years of active useful life which she has since enjoyed.

The Ultimate Effects of the Removal of the Uterine Appendages upon the Nutrition of the Uterus. Under this head comes up for consideration the atrophic changes which are induced by the removal of the appendages. With rare exceptions, the uterus, whether hypertrophied by the presence of myomata, or in consequence of chronic inflammatory congestion, shrinks to its natural size, or possibly may undergo still greater involution. The myomatous tumors disappear, or cease to grow, menorrhagia is arrested, and an artificial menopause is induced. According to the experience of Tait the age of a patient has a marked influence upon the rapidity and course of these changes. He puts it thus, approximately:

Before the age of 40 years, 70 out of 100 tumors will disappear completely; between 40 and 50 they may not for the most part disappear entirely, but they will diminish in size sensibly; out of a total of 265 cases, in all but 8 the removal of the appendages brought about a complete relief to symptoms either by the complete disappearance of the tumor, or its cessation in growth, and the full checking of the menorrhagia. In the 8 exceptions subsequent hysterectomy was required.

The following personal observation illustrates happily these points:
A lady, who had been under my care for ten years or more, was the subject of a small interstitial myoma, producing obstinate menorrhagia, and accompanied with epileptiform attacks at long and irregular intervals. By repeated curettings of the uterus, and by the prolonged administration of large doses of ergot, she was kept along from year to year with the expectation that the natural menopause would bring relief to her symptoms. The age of 51 years found her with her condition in no wise ameliorated; she flowed, if anything, more copiously and continually than ever. Finally I removed her appendages. The operation was done a little more than one year ago. From that day she has lost no more blood, and what is also interesting, she has had no convulsion. Her general health is better than it has been for many years. In the cases in which the appendages are removed for the relief of chronic inflammatory conditions, the atrophic changes in the uterus are not so prompt and certain as in cases of myoma. The arrest of menstruation is sometimes delayed for months and in some cases never takes place at all,

According to GloevecK (Arch. f. Gyn., 1889, Bd. 35. Hft. i, p. 1) taking all classes of cases together menstruation is suppressed in 88 per cent. of cases; in the remaining 12 per cent. it becomes rarer and less abundant.

What is the effect on the remaining generative organs of the extirpation of the uterus only, ovaries being preserved? The author above referred to (GloevecK) is able to answer from the observation of 14 such cases. He says that after the extirpation of the uterus the menses are always suppressed, and without ever giving rise to vicarious hemorrhages of any practical consequence. For a while after the operation the times of the usual menstrual crisis may declare themselves by vague pains and malaise in the pelvis, such as usually characterize the menstrual tmolimen. The loss of the uterus appears to have no influence upon the remaining genital apparatus. The vulva, the vagina, and according to all appearance the ovaries, also remain normal. It appears certain that the function of ovulation persists intact until the occurrence of the natural climacteric.

I have thus very briefly traveled over a very wide field; my effort has been to summarise, in a condensed manner, the ultimate results, as
I have been able to gather them from the published work of others, and from my own observations, which have attended the recent major surgery of the uterus and its appendages. One cannot fail to be impressed, as the subject passes in review, with the vast possibilities of benefit which inheres in this branch of surgical work. Its limitations at the same time are clearly defined. It is no field into which one can venture with rash footsteps. Operative mutilation in any part of the body is to be deprecated, and accepted only when clear proof exists that other measures are futile. Especially should this be the case when organs are concerned which are so intimately related to the higher functions of life as are the uterus and its appendages.

But all the more forcibly does the very important character of the organs involved urge the surgeon—when once the indications for his interference are clearly established and the futility of temporizing methods are apparent—to radical and thorough work, that out of the wreck which has already been worked by disease, he may wrest as much as possible for future good.

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