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The Fruits of Conservatism

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IN my early years as a gynaecological surgeon two cases occurred which profoundly affected my outlook. The first was that of a lady recently married who, wishing above all things to have a child, underwent subtotal hysterectomy on account of a single submucous fibroid. Being a woman of strong character and reticent fortitude, she accepted the blow without complaint, and, by assuming a proud indifference to children, held the insistent mother-instinct at bay, so that none but those who knew her well perceived the tragedy. I was amongst this number, and the pity of it is still keen in me to-day.

The second was that of a young girl, also recently married, from whom I removed both ovaries for bilateral dermoid cysts. Into the successful performance of the operation I put all my endeavour and all the knowledge and skill I then possessed, and I felt it grievously when on learning what I had done she conceived for me, as the instrument of her misfortune, a visible horror and undisguised aversion.

These two cases disturbed me greatly, for the practice followed was that universally carried out and taught at the time, and I asked myself whether in such instances the surgeon's knife must necessarily inflict a spiritual as well as a physical wound.

From that time I began to try, tentatively at first,¹ to do something better, and finding it possible, applied myself to a practice of conservatism, the fruits of which are embodied in this paper.

JOURNAL OF OBSTETRICS AND GYNAECOLOGY

CONSERVATION OF THE UTERUS.

Abdominal myomectomy had been practised long before I began surgery, but on strictly selective lines, though in 1897-98 Alexander, of Liverpool, a pioneer before his time, had published three remarkable papers which made no impression on the current view.^{2, 3, 4} Even till quite recently its textbook indications were given as solitary, or at most but few tumours, either pedunculated on the peritoneal surface, or if embedded in the uterus, then superficially so. Such conditions embrace only a small proportion of all cases of fibroids.

I set myself to make myomectomy so feasible, successful and safe as to render it a fair alternative to hysterectomy in every case, the decision which to perform resting solely on whether the woman's spiritual and bodily interests were best served by the one or the other. Excepting only in a very few instances in which special conditions exist I have succeeded, and now enter the operating theatre free of the trammels which at one time too often compelled my hand against my heart.^{5, 6}

Mortality of Abdominal Myomectomy.

I have performed abdominal myomectomy 632 times, and have had seven deaths after the operation—a mortality rate of somewhat under 1.1 per cent. This figure is considerably lower than the average expert mortality rate for hysterectomy, as it appears in the recent and admirable paper by Arthur Gemmell.⁷ Of the seven deaths, two were due to pulmonary embolism, but the remaining five were all occasioned by faults in technique which I have now corrected. Since the last of these deaths I have performed the operation 250 times without losing a patient. In assessing the significance of this result and also the further figures I am going to give, the scope of the operation as practised by me must be borne in mind. Neither size, position, nor number has been a deterrent. Of the 632 cases the tumour was solitary 254 times and multiple 378 times. The largest number of fibroids extirpated from a single uterus was 125, and on nine occasions I have removed numbers between 50 and 92.

New Fibroids.

In 1930 I sent a *questionnaire* to all the patients on whom I had performed myomectomy up to 1927. I had 210 answers, and on the information thus acquired I gave an Hunterian lecture on the subject.⁸ I have recently sent a similar *questionnaire* to all my patients so operated on between 1927 and 1933, and have

had 169 replies, making 379 in all. Of these 379 patients new fibroids appeared nine times, or 2.3 per cent. Of these nine patients four had to undergo hysterectomy without having become pregnant in the interval between the operations, one had a child after the myomectomy and then underwent hysterectomy, one became pregnant after the myomectomy and had Caesarean hysterectomy, one had a second myomectomy with bilateral enucleation of ovarian cysts nine years after the first and four years later was delivered of a child by Caesarean section, while the remaining two have not required further operation.

In a certain proportion of the patients from whom I received answers to my *questionnaire*, the relative recency of the operation leaves time for new fibroids to appear in the future, but, making full allowance for this, the recurrence-rate should be under 4 per cent.

In all the instances in which new fibroids have formed the patient was exceptionally young at the time of the myomectomy. Reappearance is most unlikely in patients who, when operated on, are over 35 years of age, provided that the procedure is carried out thoroughly.

Menorrhagia.

Menorrhagia either persisted after the operation or appeared subsequently 12 times, or 3.1 per cent. Of these 12 patients six underwent hysterectomy (five with new fibroids), one was curetted, and two had mucous polypi removed, while in the remaining three the loss was kept in check by drugs.

Dysmenorrhoea.

One patient, subsequent to a myomectomy which it was hoped would cure her dysmenorrhoea, had to undergo hysterectomy on that account. In another also dysmenorrhoea persisted after the operation, but not to a degree necessitating further operation.

General Health.

Apart from these cases the *questionnaires* revealed in almost all the cases a most satisfactory improvement in health and an absence of genital symptoms. The actual number that so complained was under 2 per cent, including in this category a patient who subsequent to the myomectomy underwent a further operation for ovarian blood-cysts, and a second who developed a large cyst in the uterine wall. It was lined by cubical epithelium and was held to arise from a congenital "rest". Hysterectomy was performed.

Pregnancy.

Of the 379 patients concerning whom information was obtained there were 137 who, being married and within the child-bearing age, desired children. Of these 52 conceived after the operation, or 38 per cent. Natural delivery ensued 34 times, Caesarean section was performed 17 times, and there was one miscarriage.

These figures record only the pregnancies first occurring after the operation, but several of the patients have conceived twice and at least two of them three times.

It is noteworthy that my first sending out of a *questionnaire* elicited information that out of 77 women able and wishful to conceive after the operation 30 had actually done so. The percentage (39 per cent) was much higher than I expected, and I opined I had been lucky, but the second sending out elicited figures only slightly less good (22 out of 60), thus disposing finally of the myth that myomectomy usually leaves a uterus too deformed to conceive and bear a child in. The fact that only one miscarriage occurred to 51 full-time deliveries corroborates what we have already for a long time known, namely, that the reparative power of the uterine wall is remarkable.

The Operation and Age.

Concerning the application of the operation, I have in the past stated that, broadly speaking, myomectomy is the operation of choice in women under 41 years of age and hysterectomy on women over 41 years of age. Increased confidence in the results of myomectomy has led me of recent years to modify the latter part of this statement, for besides those not infrequent cases in which the patient, though getting on in years, resents the removal of her womb, there are others where the choice being left to the surgeon, myomectomy is properly chosen as the less severe operation of the two and equally certain to cure the symptoms. For example, menorrhagia in a woman of 46 years of age due to several fibroids in the anterior wall of an otherwise healthy uterus, is as surely cured by myomectomy as by hysterectomy, and in such an instance is not only the less severe of the two procedures, but leaves a suture line to which nothing worse than the bladder can adhere.

In short, I do not now observe any rigid rule with these older women but choose between myomectomy and hysterectomy according to which ever of the two promises to be the less severe undertaking.

Malignancy.

So far as I know no patient on whom I have performed myomectomy has subsequently developed malignant disease in the conserved uterus, but I once enucleated sarcomatous fibroids without realizing the metamorphosis. The patient was quite a young woman, and rapid peritoneal recurrence took place, of which she died. Cases like this require special guarding against. Sarcomatous fibroids have a peculiar hyaline appearance as a rule, and when this is observed the question of hysterectomy must be considered. If it is decided to carry on with the myomectomy the enucleated tumours should be microscopically examined as soon as possible after the operation.

Technique.

I have elsewhere very fully described the operative technique to which these results are owing.⁹ Its essence consists in haemostasis during the operation by means of my myomectomy clamp, the placing of the suture line on the anterior wall of the uterus, deliberate and careful removal of the tumours so that not even a seedling is left behind, opening the uterine cavity to make certain there is nothing within it, removal of all redundant uterine wall before suturing is commenced, the avoidance of mattress sutures, and meticulous asepsis. When enucleating large tumours it is often best to remove them in bits (morcellation) as this is a much gentler proceeding than tearing and pulling them out *en masse*.

CONSERVATION OF THE OVARIES.

Except in the case of malignant disease I hold it to be the clear duty of a surgeon to preserve the feminine sex-glands intact, or, if this is impossible, at least to leave in her body the full amount of undiseased ovarian tissue that she possesses.

The Ovarian Activities.

Fully functional adult ovarian tissue carries on four activities : (1) It promotes the sex sense, (2) it liberates fertilizable ova, (3) it controls menstruation, and (4) it stabilizes the nervous and neuro-vascular mechanism. As a woman gets older these four activities are discontinued, not simultaneously except in rare instances, but one by one and usually in the order in which I have set them down, but so long as one of them is maintained the ovarian tissue originating it cannot be said to be functionless. Moreover, in some women the ovarian tissue appears to be never more than partially functional, the first, second or third activity,

or the first and second activities, or the second and third activities, or the first and third activities, or the first, second and third activities being absent at all ages between adolescence and the climacteric. The fourth activity, whose cessation produces the symptoms and signs of the climacteric, is the most constant of the four, for it is never missing except in conjunction with or after the other three.

The only one of these four activities, the presence or absence of which can be decided with unvarying certainty, is that concerned with menstruation. The presence or absence of the ovular activity is usually inferred from the patient's age, but with no surety. For instance, at 50 years of age it would certainly be held to be absent, yet some years ago I saw a woman who conceived for the first time after she had passed her fiftieth birthday. The presence or absence of the activity concerned with the sex sense can only be judged of on information supplied by the woman herself and she may be unwilling to give it, or, giving it, may not tell the truth. There are undoubted instances of this activity persisting long beyond what is ordinarily considered the normal.

The presence or absence of the stabilizing activity can only be judged of negatively. If a woman has had climacteric symptoms it is certainly absent, but if she has never had them it must be presumed to exist. I have seen violent climacteric symptoms follow the removal of both ovaries in a woman over 60 years of age. There seems reason to believe, moreover, that the four ovarian activities are sometimes unequally distributed as between the two sides, and that apart from any evidence of disease or gross malformation. Certainly, as regards ovular activity it is not uncommon to find on one side an ovary containing follicles and corpora lutea in different phases, while in the other the ovary, though perfectly healthy, presents none of them. Every gynaecological surgeon of long experience has met with cases in which after the removal of one ovary only, the patient either never conceived again, lost her sex sense, ceased to menstruate, or had climacteric symptoms.

These considerations show that, except in malignancy, the surgeon should strive to preserve in the patient's body every atom of undiseased ovarian tissue.

The Ovaries in Hysterectomy.

When I began gynaecology this view was not held, and removal of both ovaries was commonly carried out on the

slightest grounds and frequently for operative convenience only.* One would have thought that to-day such heathen practice would be long since dead and buried, but its wraith lingers yet in quite recent papers and discussions on whether, when performing hysterectomy for nonmalignant conditions, the ovaries should or should not be removed as well. Those who still maintain the practice of removing them justify it on the grounds that ovaries left behind may become diseased. The argument has never appealed to me, and indeed one could justify almost any operative extravagance by it. The number of times I have had to operate on ovaries conserved at a hysterectomy can be counted on the fingers of one hand, and my experience is long and large. It is also said that ovaries so conserved cease to be active in a very short time. This, again, is the reverse of my experience. I have had many opportunities of seeing ovaries through an abdominal incision at various periods after hysterectomy, and they appear perfectly normal. I think it is forgotten that the majority of hysterectomies are carried out on women over 40 years of age whose normal climacteric is not more than eight to ten years distant.

The Ovaries and Radiological Treatment.

Forty years ago the removal of both normal ovaries for the arrest of menorrhagia was a common operation. The radiological measures carried out to-day for the same purpose are on a par with it, for though the patient escapes the drawbacks of an abdominal operation the end result, namely, the destruction of ovarian function, is the same. The old surgeons could at least excuse the misfortune they inflicted on the grounds that hysterectomy was at that time a dangerous operation. There are certain cases of women approaching the climacteric in which radiological treatment is to be approved, though even of such I have seen not a few who bitterly regretted it, but to resort to it in women still in the thirties is to me senseless and cruel.

The Ovary and the Appendix.

It is a common practice amongst surgeons of imperfect training and small experience to remove the right ovary in the course of

* I have often seen an ovary removed in the course of hysterectomy for fibroids because it was sessile on the enlarged body of the uterus. There is no necessity to do this if a ring forceps be temporarily placed on the ovario-pelvic ligament to control the blood-flow from the proximal end of the ovarian artery during the separation of the ovary from the uterus.

an appendix operation "because it had a cyst upon it". It is only the ovary accessible through an appendix incision that is so commonly said to be afflicted with this cyst, but the suggestion is strong that had Nature placed the appendix on the left side the left ovary and not the right would be the one sacrificed by the hedge-surgeon* who performs the operation. An ovary with a small cyst on it should not be removed. If the cyst is a normal follicle on the point of bursting it should be left alone. If it is a real pathological formation it should be enucleated.

Enucleation of Ovarian Tumours.

This leads me to the conservative treatment of ovaries enlarged by cyst formation. I showed many years ago that many types of ovarian cysts are enucleatable from the ovary. In this category are included dermoid cysts, follicular cysts, ovarian blood-cysts (chocolate cysts), whether derived from the follicle or the corpus luteum, as well as certain fibromata and rarer solid formations such as granulosa tumours. Most multilocular pseudomucinous cysts are so large by the time they are operated on that enucleation is impossible, but when small they also can be treated so.

The advantage of enucleation over the attempt to leave a part of the ovary unaffected by the cyst is that such an unaffected part is often not obviously present, whereas enucleation conserves the entire ovarian substance, much stretched, of course, but capable of being restored by sutures to a reasonably normal shape.

It should be taken as an axiom that a woman having ovarian cysts who continues to menstruate has within her some portion of healthy functional ovarian tissue, and except when the cyst is malignant it is the surgeon's duty to conserve that portion. I have no opinion of ovarian grafting. Healthy functional ovarian tissue should be conserved in its natural situation.

The Results of the Operation.

In the last 15 years I have performed conservative operations (mostly enucleation) for ovarian cysts and tumours 120 times. Of these 120 patients 58 had blood (chocolate) cysts, 31 on one side only and 27 on both sides. There were 40 cases of unilocular serous cysts, 26 being unilateral and 14 bilateral.

* "Hedge-surgeon", an analogue of the hedge-priest referred to by Sir Walter Scott. See the notes to "Ivanhoe".

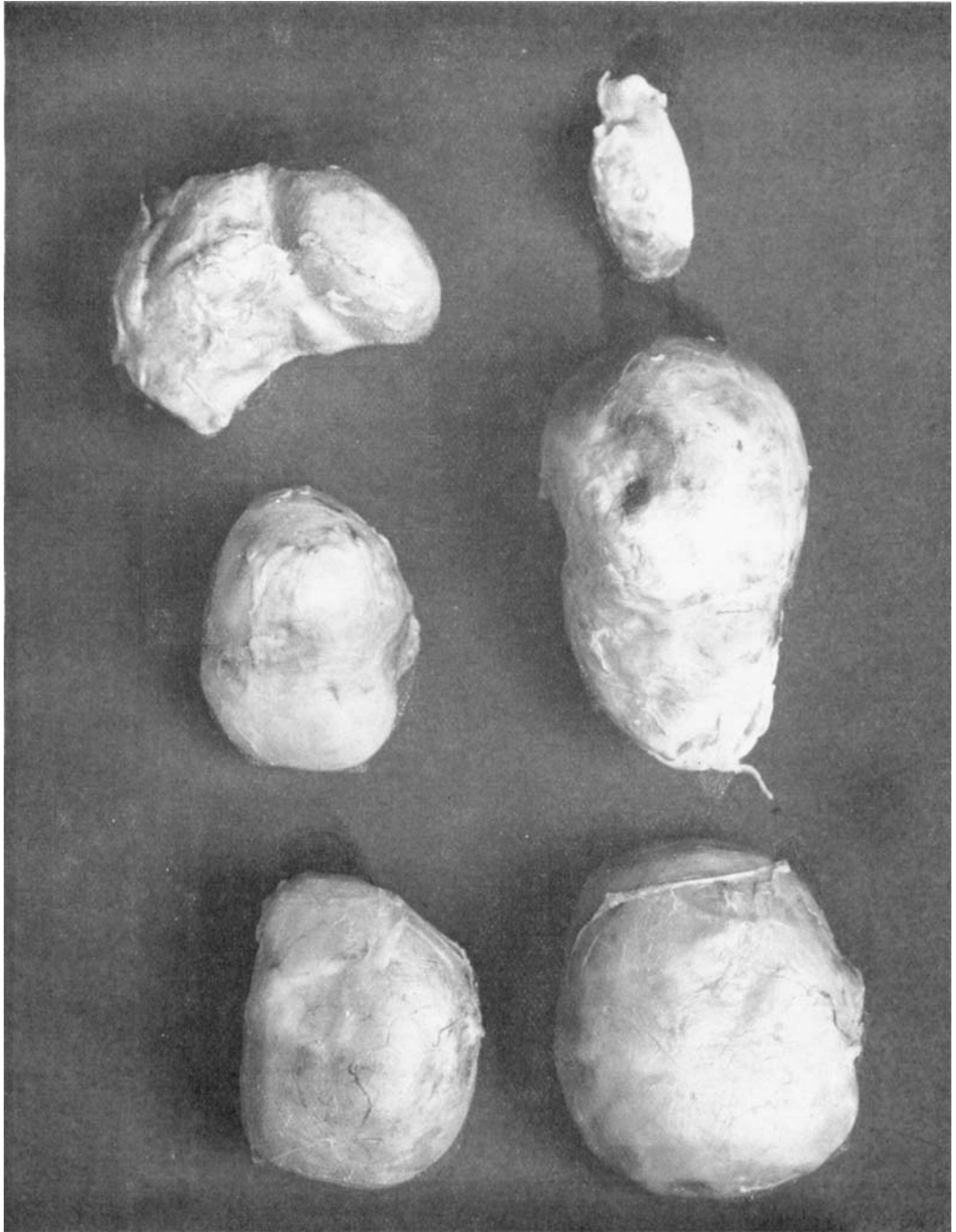


FIG. 1. SIX DERMOID CYSTS.

Three enucleated from the right ovary, and three enucleated from the left ovary ($\frac{1}{2}$ natural size).

THE FRUITS OF CONSERVATISM

There were four patients who had a blood-cyst on one side and a unilocular serous cyst on the other. There were 11 cases of dermoid cysts, the cysts being unilateral in seven cases and bilateral in four. In one case the dermoid on one side was complicated by a blood-cyst on the other. Multiple dermoids in an ovary occurred four times. One patient had two in one ovary, two patients had three in one ovary and two in the other ovary, and one patient had three in both ovaries.

Besides these there were three patients with multilocular cyst adenomata, three patients with solid granulosa tumours, and one patient who had three fibromata on one side and two on the other.

Mortality.

There have not been any operative deaths in this series.

Pregnancy After the Operation.

I sent out a *questionnaire* to all these patients except those operated on less than three years ago, and have had 90 replies. Of this number 16 have conceived since their operation, 32 have not conceived though they were married, of child-bearing age, and wanted to have children, and 42 have not conceived, being either beyond the child-bearing age or not wishful to do so.

Of the pregnancies, five occurred after the enucleation of blood-cysts, and in two cases the enucleation was bilateral. Six occurred after the enucleation of serous cysts which in two cases were bilateral. Four occurred after the enucleation of dermoid cysts which in two cases were bilateral, and from one of these women I had removed three dermoids from one ovary and two from the other. The most interesting pregnancy is the last, for it occurred after the enucleation of a granulosa tumour from one ovary. Included among the group of patients who replied to my letter is the second case in which I removed three dermoids from one side and two dermoids from the other. She does not, unfortunately, want to conceive though she is of an age to do so. This year I have had another patient from whom I enucleated six dermoids, three from either side. She was six weeks pregnant at the time and is now getting near term. The conjoined masses formed a swelling which came above the umbilicus. (Fig. 1.)

Recurrent Disease.

The general health of all the patients on whose ovaries I have performed a conservative operation and who replied to my

letter has been excellent, except in four instances, all of whom had had blood-cysts enucleated. Of these one developed new cysts and was operated on by another surgeon and died of sepsis. The remaining three all developed uterine endometriosis and had to undergo hysterectomy.

Certain gynaecologists adopt a drastic course when dealing with cases of ovarian blood-cysts (chocolate cysts), removing one or both ovaries and not infrequently the uterus as well. It will be seen that I have adopted the opposite course. Those who advocate drastic measures hold that endometriosis may develop into malignancy. In cases of ovarian endometriosis more or less irremovable thickening of the posterior pelvic peritoneum has as a rule to be necessarily left behind whatever operation is performed, and if there be any substance in the allegation this would remain a basis for malignancy to start upon. But such supervention must be very rare for I have never seen it. In my experience this thickening disappears after several years, and in the meantime does not cause any symptoms. The cysts may recur undoubtedly, but the one case I here record is the only example I know of. The apostles of stringency would be on firmer ground if they advocated hysterectomy to prevent subsequent uterine endometriosis, for my figures show that this occurs after enucleation in rather under 6 per cent of the cases. But is it worth sacrificing the uterus and the chance of pregnancy for this small risk? I think not, especially in view of the fact that I have five cases of pregnancy to set against the three cases of subsequent hysterectomy.

REPARATIVE OPERATIONS ON THE FALLOPIAN TUBES.

Since 1921 I have performed 70 reparative operations on patients having double tubal closure. There have not been any deaths. The operations performed have been as follows: Salpingostomy, forty-four times; freeing tubal kinks, seven times; tubal exsection and anastomosis, two times; reimplantation of the tubes into the uterus, nine times; reimplantation on one side and salpingostomy on the other, three times; double reimplantation with double salpingostomy, four times; and making an ostium in the uterine cornu of a patient who had had both tubes removed, once.

Pregnancy After the Operation.

I sent out a *questionnaire* to all these patients except those operated on less than two years ago and received 37 replies.

THE FRUITS OF CONSERVATISM

Among these 37 women there were seven who had conceived. My percentage of successes (18 per cent) is, therefore, greater than that recorded in the recent and valuable paper by Bethel Solomons, the figure there being 15 per cent for a number of collected cases.¹⁰ My numbers, however, are small, and I may have been fortunate, but the gratifying point is that I have had successes after several of the different types of operation and not merely after salpingostomy. The distribution of these successes is as follows: After salpingostomy, twice; after reimplantation, twice; after reimplantation on one side and salpingostomy on the other side, once; after double reimplantation with double salpingostomy, once; after tubal exsection and anastomosis, once.

It is held by some authorities that the operation of reimplanting the Fallopian tubes into the uterus is so unlikely to achieve the desired result as not to be worth doing. My results show that this is not the case.

Of the two pregnancies that followed reimplantation, one was in the Fallopian tube reimplanted, which by great misfortune was the only one capable of being repaired. I had to remove the pregnant tube.

The rule I have followed is not to operate unless the semen has been proved active and the Fallopian tubes have been found to be blocked on two occasions separated by a three months' interval, unless at the first testing a thickening or tumour can be felt.

I explain to the patient that on opening the abdomen I may not be able to effect the object of the operation, and that supposing I am able it does not by any means follow that she will become pregnant. She must, in short, be prepared to take the chance of a chance.

CONCLUSION.

Although as compared with the opening years of this century there has been some advance, it is certain that, except in a few quarters, conservatism to the full extent of its possibilities, though many do it lip-service, is not practised by gynaecological surgeons in this or any other country, while amongst surgeons who only operate occasionally on the female organs, the lack of exemplars causes it to be practised still less. I am impatient for a change of attitude.

JOURNAL OF OBSTETRICS AND GYNAECOLOGY

Timidity in abandoning courses proved at least to ensure physical recovery, though purchased at possible psychological cost, the fetters welded by teachers on the imaginations of the taught, and the docile sinking of individual outlook in the mass-view of a school; it is these that maintain the older, harsher methods. I have shown that they can be replaced by an equally safe conservatism, which is not only much more beneficent, but bespeaks that compassionate artistry of mind, unguided by which, surgery is scarcely worthy of being reckoned amongst the arts.

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