A SHORT CRITICISM OF RADICAL OPERATIONS FOR THE CURE OF BACKWARD DISPLACEMENTS OF THE UTERUS.

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EVER since the first systematic practice of gynæcology began the non-gynæcological mind, both lay and medical, has considered a gynæcologist as a person whose principal duty it is to insert pessaries, and who does so on every available occasion. It is probable that in the past there has been some justification for this belief, because there were but few alternative measures which could be adopted with safety for the relief of one of the most frequent class of female ailments—namely, uterine displacements. Gynæcological practices have, however, widely changed during the past ten years, and though it is not possible at present to banish the pessary the majority of gynæcologists no longer regard it as affording the best method of treating uterine displacements, but rather as an ancillary method which one may be forced to use by the special circumstances of the case. This change has come about with comparative rapidity. When I was assistant at the Rotunda between ten and thirteen years ago, I think I am right in saying that the general practice was only to perform radical operation for the cure of backward displacements in exceptional cases. In such cases the operation was usually performed by the vagina, and took the form of Mackenrodt's or Dührssen's vaginal fixation of the uterus. These operations, however, came

to be regarded as likely to be dangerous during pregnancy and labour, and consequently their use was limited to cases in which the patient had passed the childbearing period.

Five years ago one's views on radical operations had advanced a stage, and many gynæcologists considered that such operations should be performed if there was any difficulty either in fitting a suitable pessary or in having it looked after subsequently. My own practice in hospital was that, if a patient who lived in Dublin came to me with a backward displacement, I put in a pessary, but if she came from the country, or was a soldier's wife and likely to leave Dublin, I did a radical operation. Most operators, I think, preferred in such cases Howard Kelly's operation of ventral suspension of the uterus.

From this stage it is only a short step to the views which are held by some operators at present, and with which I personally agree—namely, that if a woman is suffering from a displacement which requires relief, a radical operation should always be performed in preference to inserting a pessary, unless there are any special circumstances which make operations of any kind inadvisable. My own practice is this:—If a patient has to be curetted, or to have any other minor gynæcological operation performed, and if she has a backward displacement of the uterus, I always operate on the displacement at the same time. The same rule applies even more strongly in the case of major gynæcological operations, with the exception of hysterectomy. In these cases, however, the radical cure of a backward displacement can hardly be regarded as a distinct operation, seeing that it consists merely in inserting the peritoneal sutures in a particular way.

There are, of course, exceptions to this rule. I have mentioned above one group of exceptions—namely, when operative procedures are contra-indicated by the condition of the patient. The only other exception which occurs to me at the moment is in cases of puerperal or post-puerperal displacements, as they can usually be cured by a very temporary use of a pessary.

I do not think that it is necessary for me to dwell at any great length on the reasons for adopting this practice. No one, I think, will deny that, provided operative procedures are safe and give a good after-result, they are preferable to the prolonged wearing of a pessary. Assuming for a moment safety and certainty of result, the position is this:—One patient is brought into hospital on account of menorrhagia. She has a backward displacement. She is curetted and a pessary is inserted. Her stay in hospital varies from a couple of days to a week. She then leaves, but has to return at least every three months to the extern department to have the pessary removed, cleaned, and replaced. No matter how well it fits, it may at any time cause irritation and discharge from the vagina. It may even cause ulceration of the vaginal walls. If a large pessary has to be used it stretches the walls, and on account of this stretching its size has probably to be increased progressively. In old age it is certain to cause even more marked discomfort.

Contrast this with the history of another patient, who comes into hospital under similar conditions, and on whom a radical operation has been performed. Her stay in hospital is from ten days to a fortnight. She leaves unaccompanied by a pessary, and so far as the uterine displacement is concerned there is no further trouble.

The only way one can decide as to the safety and certainty of the different radical operations is by examining

into their immediate and subsequent results, and it is for this reason that I wish to-night to place before you a short criticism of radical operations, and especially of the method I usually adopt in these cases, and its results.

I had better begin by dividing the cases in which radical operations are necessary into three groups:—

(1) Cases in which a major operation has been performed and the peritoneal cavity is opened.

(2) Cases in which the displacement is complicated by adnexal disease.

(3) Cases of uncomplicated backward displacements.

The cases in the third group are those with which I am principally concerned, and I can dispose of the first two groups in a few words.

When an abdominal operation has been performed, such as myomectomy or operations on the appendages, I always finish the operation by performing ventral suspension of the uterus by Kelly's method, and if the patient is likely to have children and the operation has not taken a long time, I like to supplement it by the intra-peritoneal shortening of the round ligaments. The reason for the latter step is that the adhesions formed by Kelly's operation always tear away or stretch during pregnancy, and that there is nothing to prevent a return of the displacement after delivery, if the uterus is inclined to fall back.

When a displacement of the uterus is complicated by adnexal disease it is necessary to open the peritoneal cavity for the treatment of the latter condition, and then these cases fall under the same rule as those in the first group.

This brings us to group (3) and to the question—What is the best operation for the radical cure of uncomplicated backward displacements of the uterus?

There are three different classes of operation:—

- (a) Ventral fixation or suspension of the uterus.
- (b) Vaginal fixation of the uterus.
- (c) Operations on the uterine ligaments.

Ventral fixation of the uterus is not permissible during the child-bearing period, because it causes too strong a bond of union between the uterus and the abdominal wall. Ventral suspension, on the other hand, is always permissible. Its immediate results are uniformly good, and, if the uterus and its ligaments return to a normal state, the results after pregnancy are also good. It, however, affords no support whatsoever after pregnancy, because the essence of the operation is the formation of a bond of union which will tear away or elongate during pregnancy and so permit uterine development. I am aware that there is a difference of opinion on this point, and I was once told that if I could not get the uterus to remain in position after pregnancy in cases in which I had performed Kelly's operation it was because I had performed the operation wrongly. The speaker, indeed, went so far as to say that if I had in the past used only one fixation stitch I should in the future use two, and if I had used two I should in future use three. Such a remark applies very correctly to a ventral fixation, but not to the suspension operation. Howard Kelly, who originated the operation, writes thus:—"After labour the malposition of the uterus may return. Fourteen cases upon which suspensory operations have been performed at the Johns Hopkins Hospital have been examined at varying periods after labour. In nine of them the uterus was in good anteposition, while in five the ligaments had apparently broken and the uterus was again in retroposition." I have only one criticism to make on this remark—namely, that I am inclined to think that the normal position of

the uterus in the nine cases was due, not to the persistence of the false ligament, but to the fact that the uterus and its true ligaments had returned to a normal condition. I have not looked up my own statistics, but I know I have had some half-dozen cases in which pregnancy has occurred after Kelly's operation, and the proportion of returns is about similar to that given by Kelly. In one case I subsequently opened the abdomen and there was no trace of the suspensory ligament. Further, I have never heard of an operator who has found a suspensory ligament in any case in which he opened the abdomen of a patient who had become pregnant after a Kelly's ventral suspension.

Vaginal fixation of the uterus I, personally, do not like, and I think neither do most other gynaecologists. It is a useful substitute for ventral fixation in some cases, but not for ventral suspension. I thought at one time that the difficulty which it causes during pregnancy might be avoided by passing the fixation sutures low down on the uterus near the corporo-cervical junction. This practice, however, is useless when the uterus is large and the vagina lax, as it means that the upper part of the vagina is dragged over by the heavy uterus and the displacement recurs, even though the fixation persists.

The third class of operations—namely, operations on the uterine ligaments—includes the operation which I think is that of choice in uncomplicated displacements of the uterus. I will not weary you by discussing all the different forms of operation which have been suggested on these ligaments, their name is legion. The sacro-iliac ligaments have been shortened through the vagina and through the abdominal cavity, and the practice is often a useful one in severe cases of prolapse. The round ligaments have been shortened at the external abdominal

ring, and intra-peritoneally, through single incisions and through double incisions. They have been tied in knots in front of the uterus and behind the uterus. They have been pulled through openings in the abdominal wall and through openings in the vagina. Still, when every possible commutation and permutation of the original operation has been adopted, we are brought back, I think, to where we started, and to the fact that the original operation is the best and safest.

The original operation for the shortening of the round ligaments was first placed on its present basis by Alexander, of Liverpool, and is now known by his name. It is said to have been introduced by Alquié, of Montpellier, in 1840, who, however, only performed it on animals. It was condemned by a Commission appointed by the French Académie de Médecine, and apparently died. In 1864 it was performed for the first time on a human being by Deneffe, and in 1881 it was again introduced by Alexander, to whom the credit of its existence as a well-recognised operation is undoubtedly due. In 1882 it was performed by Adams, who had previously practised it on the cadaver, and had taught it to his class. Owing to the multiplicity of parentage it is consequently sometimes known as the Alquié-Alexander-Adams operation.

As is well known, the operation consists in drawing out the round ligaments at the external abdominal ring, cutting off the excess, and anchoring the stump to the pillars of the ring or to the sides of the inguinal canal if the latter has been opened. As an operation it has had a chequered career, not the least curious feature of which is its almost complete rejection by the countries in which it was originated. Not alone did the French Commission condemn it in 1840, but it was almost universally rejected

by English gynæcologists after Alexander introduced it. Gradually it established a firm position in America, and now it is recognised by gynæcologists all over the world, with a few exceptions, as being a valuable operation.

Even at the present day, however, it has the virtue of causing an extraordinary difference of opinion on points which one would have thought impossible.

In a work on gynæcology, published in 1907, Herman writes that "the grave objection to Alexander's operation is its risk; the danger to life and the danger of a long illness with suppuration of the wound. . . . This detachment (of the ligaments), together with the tension which is put upon them, seems to lower their resisting power and make them liable to inflammation. This inflammation may lead to deep suppuration, which may spread to the peritoneum, and thus fatal peritonitis follow in a week or so after the operation."

In a similar work published in 1903, Galabin writes that "the operation has a particular liability to be followed by suppuration of the wound." On the other hand, Noble, in 1907, states that "the mortality of Alexander's operation is practically *nil*. In my experience there have been no deaths;" and Taylor, of Birmingham, in the same year recorded 85 cases without a death in a paper which may be taken as a practical answer to Herman's statement that in England he "knew of no operator, except Dr. Alexander, who has performed the operation often enough to make his experience representative of the average results in the hands of a competent operator."

So much for the objections to the operation on the ground of safety. On the ground of efficiency, so far as I am aware, there is no difference of opinion. Even those who say that it is dangerous admit that it is efficacious.

All Taylor's cases were successful. Peterson operated 56 times, with no relapses that he knows of. Noble had one failure and one partial failure in about 200 cases. I will give my own statistics later.

A third objection which may be raised is that of difficulty. It is an undoubted fact that in some cases it is hard to find the ligaments, and that in others they break as they are being drawn out. The number of these cases is very marked when one begins to perform the operation. It gradually lessens very considerably, but never quite disappears. Its importance is, I think, over-estimated. One first looks for the ligament at the external abdominal ring. If it cannot be found there, one opens the inguinal canal. If it cannot be found there, or if it breaks, one deepens the incision and opens the peritoneal cavity. The ligament is then found and drawn out. If we remember that of the various structures coming through the external ring the ligament lies deepest and lowest, we shall seldom fail to find it.

I have nothing to say regarding the technique of the operation, save that, although in most of the cases recorded below double incisions were made, I have lately adopted the single transverse incision, and I think it is quicker. There is, however, no material difference between the two. As regards the after-treatment, I differ in one point of practice from almost everyone whose opinions I have read. Taylor may be taken as voicing these opinions when he says that he inserts a pessary and usually keeps it in place for three months after the operation. On this point I have only to say that I have never yet inserted a pessary even for a week, and that I see no object in doing so. I think my statistics show, so far as a small number of cases go, that it is unnecessary.

My cases and their results may be summarised as

follow:—Forty-four cases were operated on. In 39 the usual double incisions were made, and in 5 a single incision was made. There were thus 83 separate incisions, and every one of these healed by primary union. One incision subsequently suppurated subcutaneously owing to the fact that the subcuticular suture broke during removal and was left behind.

One patient died, but her death, which was from double croupous pneumonia, cannot, I think, be attributed to the operation. The symptoms of pneumonia appeared in one lung on the fifth day after the operation. My colleague, Dr. Hayes, very kindly looked after her for me, but, in spite of everything, the second lung became involved, and she died on the eighth day after operation. The incisions had apparently healed normally.

In one case the uterus subsequently fell back. This was one of the first cases on which I operated, and on making the first incision on the right side I could not find the ligament. Consequently I opened the peritoneal cavity and drew the ligament out and fastened it. As, in addition to this, I had already curetted the uterus, performed a double trachelorrhaphy, and ligatured piles, the operation had lasted sufficiently long, consequently I did not operate on the left ligament. The uterus was thus suspended by only one ligament. In spite of this, the uterus was in good position when the patient left the hospital seventeen days later, and was also in good position six months later. The patient, however, returned two years later, and the displacement had recurred.

In two cases the patients were subsequently delivered under my care. On examination, a fortnight or so after the delivery, the uterus was found to be in a normal position.

In conclusion, I should like to state shortly why I con-

sider that Alexander's operation is the operation of choice in uncomplicated cases of backward displacement of the uterus. To my mind the only operation which comes into competition with it is Kelly's method of ventral suspension. If there is any appreciable element of risk attachable to either operation, I think that it attaches itself more strongly to the operation which necessitates the opening of the peritoneal cavity, and that if both operations are equally suitable, the one which does not necessarily involve such an opening is the one to select. Further, I think that Alexander's operation is more likely to lead to permanent results after parturition, though I quite recognise that it is not infallible. The false ligament formed during Kelly's operation must either stretch during pregnancy or break. If it stretches it must practically extend from the symphysis to a little below the ensiform cartilage. It is only a peritoneal band, and to expect it to contract again to such dimensions as to exert a restraining influence on an unimpregnated uterus is to expect too much. The round ligament, on the other hand, undoubtedly possesses the power of contraction, and normally elongates during pregnancy, and again returns to its former length. We can, therefore, look forward with some degree of confidence to the shortened ligament involuting after pregnancy to an extent which will again enable it to exert a restraining effect on the movements of the fundus.

The Kelly operation possesses one advantage—namely, that it enables one to inspect the uterus and pelvic organs generally during its performance, and so to make sure that there is no adnexal disease. The Alexander operation, on the other hand, compels one to depend on the results of a bi-manual examination. In this respect the question becomes one of diagnosis. Alexander's operation is only

suited for uncomplicated cases. If there is any doubt as to whether the case is or is not uncomplicated; by all means give the patient the benefit of it and perform Kelly's operation. So far as my own experience goes, however, it is only in a small percentage of cases that such a doubt exists.

The difference between extra-peritoneal and intra-peritoneal shortening of the ligaments is that after extra-peritoneal shortening the uterus is held by the strongest proximal portion of the ligament, while after intra-peritoneal shortening the uterus is held by the weak distal portion. For this reason the former operation is much more satisfactory.

I began this paper by saying that, provided operative procedures are safe and give a good after-result, they are preferable to the prolonged wearing of a pessary. I have quoted instances, including my own, of 385 cases, amongst which there were, so far as is known, about three failures and one death. The latter was due to croupous pneumonia, and save that it occurred after the operation had no other connection with it. I think, therefore, we may consider that Alexander's operation affords a certain and safe cure of all uncomplicated cases of backward displacement of the uterus, and that it entitles us to advise operation in all such cases which require treatment.

PROFESSOR ALFRED SMITH said he was against Kelly's operation, as he looked upon the suspension as wrong. He believed in the efficacy of Alexander's operation for simple backward cases. That, however, applied to a limited class of case. If Alexander's operation was used in all cases that came to them there would not be sufficient beds for them. It was only in the better-class patients that shortening of the round ligaments would come into greatest practice. In a case which he thought an ideal one for

radical operation the uterus righted itself when he removed the pathological conditions. If he had shortened the round ligaments he would have thought that it brought about the result. He considered a modification of Bumm's operation the best.

DR. ASHE said that even if the round ligaments were shortened they would stretch again. He believed Alexander's operation to be by far the best on physiological grounds. It was surprising how in simple cases complications were found when the abdomen was opened, and that was, he thought, a point in favour of the suspension method. He thought there might be a fear of hernia.

DR. HOLMES said the difficulty was to know when they had not got complications. An enormous number of women who came with backward displacement suffered also from sterility, and no gross lesion was found in the tubes. In 50 per cent. of cases that he had examined the uterus had gone back after childbirth, and he found cases often get right by inserting a pessary for about two months. He thought there was still room for the pessary in gynæcology, and he did not regard any of the operations as final.

DR. GIBSON said that he considered the Alexander-Adams the best operation for uncomplicated cases of retroversion requiring treatment. Many cases of retroversion occurring after labour could be successfully treated by replacing the uterus and applying a suitable pessary before the patient got out of bed. For complicated cases of retroversion he preferred Olshausen's operation. He had had an opportunity of examining after childbirth six women who had had the Alexander-Adams operation performed, relapse had occurred in one case, in which the woman suffered from subinvolution.

DR. FITZGIBBON said that when they were dealing with an uncomplicated case they presupposed that the adnexa of the uterus were healthy, and there was nothing to interfere with pregnancy and the proper involution of the uterus after childbirth. In such cases there was a very large scope for the pessary.

DR. MATSON said that when he was house surgeon to Mr. Alexander he had the opportunity of seeing him operate in many cases, and at that time he said he usually placed a pessary in position for about two months after the operation.

MR. L. G. GUNN said there was a cystoscopic method of examination of the bladder for determining to what extent the

uterus had been brought forward. He had found a uterus pulled over somewhat on one side.

DR. R. D. PUREFOY recalled a case operated on by Mr. Alexander in which there were three miscarriages afterwards. If a woman became pregnant after suspension the peritoneal supports were rent, and there was nothing to prevent recurrence. He assumed that before operation they would see that the uterus was reduced in size. He was certain that there were many cases in which the pessary would give relief, and some in which it would effect a cure.

DR. JELLETT, in reply, said the difference between the treatment which he advocated and the use of the pessary was a week in hospital, and he thought that was less serious than two or three years' pessary treatment, even if in some cases the pessary succeeded. Kelly's operation was not an ideal one, but it had the advantage of taking very little time to do when the abdomen was already open. So far from Alexander's operation causing a hernia, it would probably cure any inclination to hernia, as the walls of the inguinal canal were sutured and a patulous external ring was closed. Obliquity of the uterus was not, he thought, a matter of importance. In three or four cases in which he only shortened one round ligament he had in a month or so found the uterus in the middle line. The great majority of cases were those in which the uterus had fallen back after childbirth, and in these there was no necessity to look for causes of sterility, but if there was any doubt as to the condition of the adnexa, he agreed with Dr. Holmes in opening the abdomen. In one of his cases a patient became pregnant afterwards, and had great pain from pulling on the external abdominal ring as the uterus developed. The uterus was also very large, and there was hydramnios. He feared during pregnancy that the operation was in some way responsible for this, but eventually the woman was delivered of a stillborn syphilitic infant. He thought that a similar cause probably accounted for the repeated abortions in the case recorded by Dr. Purefoy.