THE RADICAL CURE OF PROCIDENTIA UTERI IN ELDERLY WOMEN.

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FOR a considerable time now I have relied mainly upon vaginal plastic methods for the cure of prolapse of the uterus, and so confident am I of its sufficiency that during the last two years I have not deemed it necessary to perform a single intra-abdominal operation. A study of the retentive mechanism of the uterus gives convincing proof that the vaginal route offers easiest and best access to most of the structures that hold the organ *in situ*.

The two main factors upon which depends the maintenance of the uterus in its normal position are (a) the integrity of the pelvic floor; (b) the anteverted state of the uterus. The levator ani muscle with the pelvic fascia and the round and utero-sacral ligaments are, therefore, of paramount importance. The two last have been most aptly described by Kelly as the two essential intrapelvic supports. The fact that cases of extensive perineal laceration occur without any downward uterine displacement shows that the levator ani is not an indispensable girder, and doubtless the peritoneal attachments, the cellular tissue; the musculature, apposition, length, and direction of the vaginal walls; the perineal body and perineum generally, are important contributory props. In a typical case of procidentia all these structures are damaged, and we find a heavy retroflexed uterus with a hypertrophied cervix in an extroverted vagina, dropping out of a large pudendal orifice accompanied by bladder and bowel.

The history of procidentia also has a bearing upon treatment, and may be briefly outlined as retroflexion, cystocele, prolapse, rectocele, procidentia. This course of events recurs every time the uterus comes down. Furthermore, the act of bearing down, with the concomitant bulging of the anterior wall, reveals in most cases the marked shortening of the posterior wall, and the loss of the support of the anterior wall consequent upon a tear of the perineum is often a primary predisposing cause of the descent of the uterus.

In dealing with the operative treatment, Kelly states that "in those cases in which the vagina has been completely everted, the lax outlet is resected with difficulty," and "there still exists a tendency of the uterus and the upper part of the vagina to bear down upon the repaired outlet." This tendency can be obviated by adopting an operative plan, on normal anatomical lines, comprising:

1. Reduction of the weight of the uterus proper.
2. Removal of excessive cervical substance.
3. Antelexion of the uterus.
4. Narrowing of the vaginal canal.
5. Lengthening of the posterior vaginal wall.
6. Restoration of the parallelism of the vagina to the conjugate of the pelvis.
7. Restoration of the continuity of the cellular tissue around the new vagina.
8. Repair of the pelvic diaphragm.
9. Repair of the perineal body.
10. Widening of the perineum and lessening the size of the pudendal orifice.

All the above requirements are fulfilled by (1) curettage, (2) amputation of cervix, and (3) anterior colporrhaphy.

ANTERIOR COLPORRHAPHY.

The ligatures of the cervix (purposely left long in the second step) are pulled upon to put the vaginal walls on the stretch. The ovoid piece of mucous membrane to be removed is outlined with the knife and dissected off with scissors. Its two ends should be about half an inch distant from meatus and os respectively. Its width is determined by the laxity of the vagina, but in any case it need not be much more than an inch, so that the carrying out of the next step may not be interfered with. The cervico-vagino-vesical cellular tissue being thus exposed, the antelexing sutures, two in number, are put in at the cervical end of the wound, and which transfix the mucous membrane edges and the peritoneum-free anterior cervical wall (supravaginal segment).

Normally the ureters are below this level, and in the extroverted position of the vagina well out of the way. These sutures are not tied till the gap is completely

closed. The parametric suture is next introduced, the needle entering and emerging alternately through the sub-mucosa, so that the edges of the mucous membrane are approximated before the final (mucous) row of stitches is inserted and tension thus avoided.

On reinvaginating the genital canal the uterus will be felt to lie in a state of normal anteversion, well over the bladder and sometimes even in a position suggestive of the Watkins-Wertheim operation.

POSTERIOR COLPOPLASTY.

In the majority of these cases there is a torn perineum; but whatever be the nature and extent of the perineal lesion the technique about to be described answers for almost all cases, with slight modifications.

Three Kocher forceps, used as landmarks and retractors, are placed as follows: One at each lower end of the labia minora and the third at a point in the muco-cutaneous junction nearest the anus. (I generally make the new vagina with a lumen just big enough to admit the thumb.) The labial lips when brought together give a satisfactory opening. The triangular or semicircular flap thus outlined is separated from the underlying scar tissue with scissors till sufficient membrane has been freed to roll over the finger, when dissection becomes simple and easy. Once the level of cicatricial tissue is past, there is scarcely any need to use either knife or scissors, as a ball swab pushed into the wound separates the rectum from the posterior vaginal wall as far up as the peritoneal fold of Douglas, well within the limits of the posterior fornix. Having freed the posterior wall both behind and laterally, the major portion, if not the whole of it (according to the size of canal aimed at) is excised by two incisions more or less parallel which commence at the labial points (indicated by forceps) and converge only in the terminal $\frac{1}{2}$ in. of their course in the lateral fornices. Traction is now made upon the cervix and the closure of the new canal is begun from the cervical end by interrupted catgut sutures, tied intravaginally. In other words, the edges of the mucous membrane are sewn as in a cleft palate. To prevent the tendency of curling in of the mucous membrane edges, submucous sutures are put in, Lembert fashion, so that the suture line stands up as a distinct ridge in the new posterior vaginal wall, an effective substitute for the posterior column. With the insertion of the last stitch at the labial angle, the new vaginal canal is completed. It will be seen, at this juncture, that the new vagina (which has now more of a rectangular direction to the plane of the sacrum and has a posterior wall $3\frac{1}{4}$ in. or even more in length) is separated from the rectum by an extensive space which is bounded laterally by the bases of the broad ligaments, pelvic fascia, levator ani, remains of the triangular ligament and muscular strands representing the small vaginal muscles. At the roof is seen the pouch of Douglas. Both the uterine artery and ureter are palpable and consequently out of harm's way.

Posteriorly are the rectum, the sphincter, and the transversus perinei attached to what remains of the perineal body.

Haemostasis being perfect, this space is now obliterated by what may be called "segmental" stitching. Three superposed interrupted sutures transfix the cellular tissue at the bases of the broad ligaments and over the levator fascia. The second set close the gap in the pelvic fascia and levator ani, and the last lot pass through triangular ligament, vaginal muscles, perineal body (all more or less blended with cicatricial tissue and not identifiable), and emerge through subcutaneous tissue. By suturing in this manner no dead spaces are left and a solid fibro-muscular wedge is interposed between the rectum and vagina which comes to lie on a bed made of the cellular tissue of the bases of the broad ligaments and perivaginal parametrium, pelvic fascia, levatores ani, vaginal muscles, and perineal body. Finally, the perineal raphe is completed by Michel clips.

In most of my earlier cases either an Alexander-Adams operation or ventrifixation was done in addition. At present I simply perform the colpoplasty described. I have now operated over twenty times without any mortality or recurrence. One case suppurred owing to insufficient rectal preparation, but even in this case, of two years' standing, the uterus is still well maintained in position.