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From Unit "A," Kandang Kerbau Hospital, for Women.

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Two Cases of Uterine Prolapse

Case Report:

CASE NUMBER I (1810-8)

The patient was an unmarried girl of 16 years with no previous history of any illness or operation.

She complained of a fleshy mass protruding from the vagina for about 12 months. On examination the cervix was protruding outside the vulva with complete prolapse of the uterus. An X-Ray of the Lumbar spine showed a spina bifida occulta. The posterior arch of the 5th lumbar vertebra was not fused and the spinous process was absent.

At operation the uterus was found to be small (2" long) and freely mobile. The round ligamets were poorly developed. Mackenrodt's and the utero-sacral ligaments were practically absent.

A ventro suspension operation was done. Convalesence was uneventful and when seen 4 weeks later the result was satisfactory.

CASE NUMBER II (2027-B)

A patient aged 28 years came to hospital complaining of infertility. She had two previous pregnancies.

In 1950 she had a breech delivery of a 6 lbs. 8 ozs. child which was still-born. Forceps were used to deliver the after-coming head.

In 1953 she had again a breech presentation at term and was delivered by lower segment caesarean section of a live baby weighing 7 lbs. 2 ozs.

On examination (27/2/56) her general physical condition was satisfactory. Gynaecological examination showed a healthy cervix. An enterocele was present. The uterus, bimanually, felt of normal size and fixed to the abdominal scar. Insufflation showed the tubes to be patent and curettage revealed a normal secretory endometrium.

On 10/8/56 the enterocele was repaired by excision of redundant vaginal mucosa and peritoneal sac. The utero-sacral ligaments were sutured together behind the cervix with approximation of the rectovaginal fascia and high posterior colpoperineorrhaphy.

The post-operative course was normal.

DISCUSSION:

The discussion was opened by Dr. J. W. F. Lumsden.

He began by describing briefly the anatomy of the genital supports and mentioned Smout's & Jacoby's classification of these supports into direct and indirect.

The direct supports are:—

1. The Vagina.
2. The pelvic connective tissue and fascia forming the pubocervical ligaments, the transverse ligaments of the cervix (Mackenrodt's the Utero-Sacral Ligaments, the Broad Ligaments and the Round Ligaments.

To these might be added the pelvic peritoneum since Curtis, Anson and Ashley have shown that it supplies real support to the pelvic viscera.

The Indirect Supports are:—

1. The Levatores Ani and Coccygei,
2. The Uro-Genital Diaphragm,
3. The Perineal Body.

The Vagina, as a thin walled tube, does not inspire confidence as a supporting structure but it is in fact one of the main uterine supports as well as supporting the fundus of the bladder, the urethra and the ano-rectal junction. It functions in this way because it is supported from

below by the Levatores Ani and the Coccygei and uro-genital diaphragm and from above, by the ligaments of the cervix. It is also completely ensheathed by the tough pelvic fascia surrounding which is again the extra-peritoneal tissue forming the elastic pad holding the vagina in place.

The upper supports are the Round and Broad Ligaments. These are normally slack and supply little direct support but they do tend to maintain the uterus in anteversion so that intra-pelvic pressure is distributed over a wide area of the back of the uterus instead of being localised to the fundus. The Uterus in this position rests to some extent on the symphysis Pubis. With the uterus in anteversion, the cervix is held posteriorly, being supported by the strongest part of the pelvic floor viz: the ano-coccygeal raphe.

The middle supports are the cervical ligaments which are localised condensations in this pelvic connective tissue surrounding the cervix. The thickening is supposedly induced by stress and therefore they are only found to be well developed where a tendency to prolapse is present. This may explain the great divergence of opinion which exists about them. For instance, Berglas and Rubin in 1953, from microscopic examination of Mackenrodt's ligaments, stated that the so-called ligaments are composed of loose connective tissue and blood-vessels only, with no fixation to the pelvic walls.

Campbell in 1950 sectioned the utero-sacral ligaments at different levels and found the cervical ends to be composed of dense smooth muscle and fibrous tissue, the intermediat e third of fairly dense fibrous tissue with a little muscle while the posterior portion broke up into strands which merged with the extra-peritoneal connective tissue, some strands being attached to the pre-sacral fascia. On the other hand, surgically, the ligaments can be demonstrated as firm solid structures lying well below the level of the uterine arteries. The pubo-cervical ligaments are important in maintaining the vagina in its normal position of 45 degrees to the horizontal. A decrease in this angle, owing to the relation of the ligaments, allows the bladder to herniate through the unprotected anterior vaginal wall.

The utero-sacral ligaments run almost vertically upwards, with the patient standing, from the supravaginal cervix and upper vagina to the fascia over the upper sacrum. They thus suspend the cervix upwards and backwards and maintaining anteversion of the uterus. It is important to realise the distinction between the extra-peritoneal connective tissue and the pelvic fascia. The connective tissues can be compared to the wood shavings or saw-dust in a packing case while the fascia is like brown paper lining the inside of the case and turned inwards in various places to wrap the articles packed in the case. The fascia is a tough layer of tissue covering the pelvic walls and encasing the pelvic viscera. It is composed of fibrous tissue and muscle derived from the underlying muscle coats of the organs and in places may resemble an aponeurosis.

The indirect supports, the levatores ani, urogenital diaphragm and perineal body form a floor for the pelvic bowl. Their anatomy is well known, the nerve supply to the levator being the fourth sacral nerve and the inferior haemorrhoidal nerve, S2, 3, 4.

According to Curtis, Anson and Ashley 1942 the pubo-coccygeus does not sweep around the urethra, vagina and rectum leaving a considerable U-shaped cleft in the anterior part of the pelvic floor as depicted in most anatomical and surgical texbtooks. On the contrary apart from a shllow hiatus, to allow the passage of the dorsal vein of the clitoris anteriorly, no cleft exists. The fibres crossing the midline in the intervals between the three tubes and being inserted into the walls of uretha, vagina and rectum ascending on the walls and some fibres descending. Thus the urethra is attached firmly to the back of the pubis by the levator ani and the vagina and rectum are firmly supported by it.

The next point of importance, which I have already mentioned is that the strongest part of the floor is that posterior to the anus where the so-called ano-coccygeal raphe is made up of antero-posteriorly running fibres of, from below upwards, the external sphincter ani, the urogenital diaphragm, the pubo-coccygeus. In addition, sandwiched between the urogenital diaphragm and pubo-coccygeus, are transversely running fibres of the ilio-coccygeus. Berglas and Rubin in 1953 and Muir in 1954 have shown that in the normal female in the erect position the cervix lies almost directly above the tip of the

coccyx and any tendency to prolapse prevented by the ano-coccygeal raphe if undamaged.

To pass on to prolapse, a difficulty has always been classification and that given by Malpas 1955 has much to commend it:

(1) Utero-vaginal prolapse of 1st and 2nd degree.

(2) General prolapse.

(3) Anterior vaginal prolapse including cystocoele and urethrocoele.

(4) Posterior vaginal prolapse including enterocoele, rectocoele with deficient perineaum.
He adds the following special categories:

(5) Urethral prolapse.

(6) Rectal prolapse.

(7) Nulliparous prolapse.

(8) Prolapse after hysterectomy.

He defines utero vaginal prolapse as Vault Prolapse in which the anterior vaginal fornix is the leading parts. This drags on the cervix causing elongation of the supravaginal cervix with the uterus possibly in a fairly normal position. The cause is weakening of the connective tissue round the vaginal vault and supravaginal cervix with often an intact pelvic floor. The Manchester operation was evolved for the treatment of this type.

In general prolapse the leading part is often the posterior vaginal fornix though all the viscera share to some extent in the descent and maintain a fairly normal relationship to each other. The cause is a muscular failure of the pelvic floor. There is no elongation of the cervix and the uterus is usually small. Some degree of peritoneal herniation is always present. This type is usually not related to obstetric trauma and typically develops rapidly after the menopause. The lumen of the vagina is often normal. The basic treatmen tis a reconstruction of the pelvic diaphragm usually combined with vaginal hysterectomy.

I shall pass now to the cases presented today:—

(1) Enterocoele or hernia of the pouch of Douglas or as Malpas prefers to call it, Vault Prolapse. He regards this condition in most cases as an early stage in General Prolapse, the leading part being, usually, the posterior vaginal fornix and the rectum below the pouch of Douglas. From this beginning, he holds, that General Prolapse rapidly occurs and when the patient is seen the uterus has become the leading part. The cause, he states to be the same as in the case of General Prolapse; that is, a failure of the pelvic diaphragm particularly the pubo-coccygeus and pubo-rectalis. The posterior vaginal wall and rectum are allowed to sag dragging the peritoneum with them. He stresses that in every repair operation the posterior vaginal fornix should be tested for laxity and if it is present the posterior repair must be carried up to the cervix.

The present case may have suffered damage to the levatores ani at the delivery of the first baby; a breech with forceps to the aftercoming head. However, the chief finding was the firm fixation of the uterus to the anterior abdominal wall resulting in marked ante-position of the viscus, thus leaving a widened pouch of Douglas which would be expected to favour herniation. The difficulty in this operation was closing this wide space after excision of the sac as the mobility of the cervix was restristed. An attempt was made to build a thick wedge of tissue from the utero sacral ligament downwards between vagina and rectum.

(2) Nulliparous Prolapse of the uterus.

This condition is said to occur occasionally in children associated with spina bifida but usually in women approaching the menopause and in these cases is related to menopausal failure of the levatores ani usually associated with heavy manual work or increased intrabdominal pressure from some other cause such as cough or tumours. The vaginal wall is usually thin and the rugae badly developed.

The present case belongs to the childhood group. There is a spina bifida occulta of the 5th lumbar vertebra and one was struck at operation by the almost complete absence of any uterine supports. The broad ligament was composed by two lax layers of peritoneum and little else. No transverse cervical or utero sacral ligaments could be identified. The vagina was narrow and the hymen intact. The operation consisted in a ventro-suspension using linen thread to plicate the round ligaments and the placing of sutures at the level of the internal os anteriorly to try to anteflex the uterus. This is not considered a good operation since elonga-

tion of the supravaginal cervix is liable to occur with eventual descent of the cervix to the vulva, although the corpus maintains its position. However, it was the only way I could think of, to repair the prolapse and preserve the reproductive function.

Recurrence has not occurred yet. When I examined the patient last week, the the cervix and the uterus were in their normal positions and the patient had no complaints. A point I had not noticed previously was that the Levatores Ani appeared to be absent—certainly they were not palpable either per vaginam or per rectum and during coughing or straining. The uro-genital diaphragm could be felt as a flat shelf supporting the lower vagina. One can postulate a congenital defect in the nerve supply to the Levatores Ani associated with the spina bifida.

PROFESSOR SHEARES asked with, with reference to case No. 1, what brought the occult spina bifida to mind. He mentioned the pigmented dimple some of these case have over the affected area and drew attention to the fact that the defect in the spinal column may be either in the cervical or sacral portion. The latter is interesting as the nerves are not developed or rudimentary and the muscles they supply will be atrophied.

DR. SINHA then emphasised that just because an occult spina bifida is present, it does not mean that a prolapse will necessarily occur. It will occur however, if there is neural abnormality. He also criticised the plication of the round ligaments in the treatment of Case No. 1 as it is well known that these ligaments cannot bear the strain of any length of time, and this patient might have recurrence of her prolapse.

PROFESSOR SHEARES: Stressed how prolapse or more correctly, pelvic hernia, often involves a variety of structures. Thus before operating, one should have an open mind. Prolapse cases fall into three groups:—

(a) where the question of future pregnancies play a part,

(b) where no further children are wanted, but sexual intercourse still important.

(c) where the possibility of malignancy exists.

In the first group, if the cervix needs to be removed, only a low amputation should be performed. In the second group, a Manchester operation is satisfactory in those patients with not more than a second degree vault prolapse.

In the third group and in third degree prolapse, a vaginal hysterectomy is indicated. Other procedures, like the Spalding-Richardson composite operation which also utilises the upper plane supports, are valuable.

DR. SEAH mentioned the objectives of the Spalding-Richardson operation.

They are:—

(a) Removal of the hypertrophied and diseased cervix,

(b) Extirpation of the Corpus Uteri together with the tubes and ovaries, if necessary,

(c) Optional excision of any remaining cervical canal epithelium,

(d) Minimal trauma to structures necessary for reconstruction and preservation of adequate blood supply,

(e) Total ablation of any associated enterocoele by high obliteration of the pouch of Douglas,

(f) Rational utilisation of supporting structures e.g., pubo-cervical fascia, basal portions of broad ligaments, the utero-sacral and round ligaments, the fascia of the recto-vaginal septum as well as the muscles and fascial layers of the pelvic floor and peritoneum,

(g) Re-establishing a vagina or normal length and restoration of normal anatomical relationships.

Only three recurrences after this operation were noted in more than 200 cases operated on in the Johns Hopkins' Hospital.

PROFESSOR SHEARES: Said that the operation is rarely done by those outside Johns Hopkins as it is technically more difficult than vaginal hysterectomy and has a higher primary mortality rate. The operation described by Richardson in 1937 was not original, as a similar operation was used by Spalding in 1919 and in the last decade of the 19th century, Shauta Wertheim had also performed an operation in which the isthmic portion of the uterus was interposed between the vagina and the bladder.

DR. SINHA: Drew attention to the Moschowitz Operation (abdominal) for the repair of an enterocoele. This was of special value in those cases of recurrent enterocoele.

PROFESSOR SHEARES: Mentioned that in those cases where more children are desired, a ventro-suspension operation can be done following the vaginal repair.

DR. SINHA: Then asked Dr. Lumsden about his views on ventro-suspension procedure for the first case.

DR. LUMSDEN: Felt that a suspension operation would not improve matters very much and would probably interfere with a subsequent pregnancy.

The meeting then concluded.
