

THE TREATMENT OF TRANSVERSE VAGINAL SEPTA—A PLASTIC SURGICAL APPROACH

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A transverse septum in the vagina is due to partial failure of canalization of either the urogenital or the Mullerian component of the vagina. It may be found at any level in the vagina but most often occurs just above the hymen. The septum, if complete, will result in a haematocolpos and haematometra, but if incomplete, may cause dyspareunia and obstructed labour during delivery.

The treatment described in the standard textbooks of gynaecology is to make a cruciate incision in the occluding membrane if it is thin. But if the membrane is thick, it is divided and the septum removed by cutting around its periphery and uniting the upper and lower edges of the mucosa by a transverse ring of interrupted catgut sutures.

However, the danger of a cicatrix forming after excision of the septum is very real and we therefore wish to describe an alternative method of treatment using the technique of Z-plasty. The following case describes the failure of the standard methods of treatment and the successful restoration of the patency of the vagina by a simple plastic procedure.

CASE REPORT

A 12-year-old female was seen at the surgical outpatient department complaining of cramp-like, lower abdominal pains. On examination she was found to have a tender cystic mass arising from the pelvis. Vaginal examination was inconclusive but on rectal examination it was felt that the mass was probably an ovarian cyst. However, because of a previous laparotomy at the age of 7 years, a surgical condition could not be excluded. The circumstances surrounding the previous laparotomy are unknown.

At laparotomy, a large uterus with tarry blood escaping from the ends of the fallopian tubes, confirmed the diagnosis of a haematometra. A further examination of the vagina disclosed a complete transverse septum in its upper part. The septum was incised and found to be about 1

inch thick. After the tarry blood had drained away, a dilator was left in the septal opening, but over the next few weeks this opening began to close. A further attempt was made to incise and dilate the track but without success.

When she was referred later for plastic surgery, a careful pre-operative assessment seemed obvious. Ordinary pelvic examination was not at all helpful as the patient was tense and non-cooperative. The vagina appeared to end 1½ inches from the introitus in a smooth, rounded, firm vault. Rectal examination did not indicate the position or size of the uterus.

A contrast medium X-ray study of the area was then undertaken with each of the pelvic viscera outlined with dye or barium. As can be seen, the contrast-medium filled bladder and rectum indicate the anatomy surrounding the vaginal problem (Figs. 1 and 2). The dye-filled swab in the lower vagina is separated from another dye-filled cavity which lies in the position of the vault of the vagina. No definite track joining the upper to the lower vagina can be discerned. The strictured length of the vagina therefore seems to extend over nearly one-third of its length. The uterus did not fill with dye. The presence of a dye-filled vaginal vault gave reassurance that some sort of a track was present which might be probed and followed at operation.

Operation

Operation was performed with the patient in the lithotomy position. Probing along the line of the posterior vaginal wall yielded some drops of dark-brown fluid. The probe was then followed with a knife (No. 10 blade), the incision being directed anteriorly in the sagittal plane. The upper vagina was suddenly entered releasing a great gush of the same dark-brown fluid. The strictured area was then fully divided and it was striking to note that its extent corresponded very closely to the impression gained from the pre-operative X-ray. The fibrosis involving this middle third of the vagina was very

tough and extensive. Its removal necessitated considerable care, for in order to re-establish the normal diameter of the vagina and to work down to normal tissue, both bladder and rectum were approached quite closely. This phase of the dissection would have been hazardous without the aid of a sound in the bladder and a finger in the rectum. All pathological material having been removed, a proper pelvic assessment could be undertaken. The vaginal passage was of normal diameter and allowed easy bimanual examination of the uterus. This was soft and enlarged to the size of a 10 weeks pregnancy. It was anteverted and the os was soft and dilated and exuded a brown fluid.

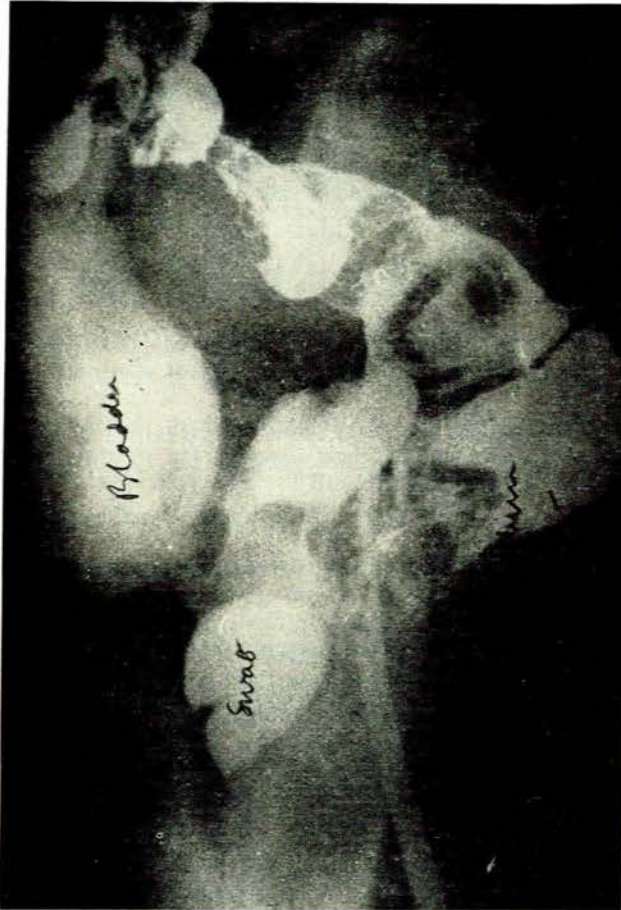


Fig. 1. Lateral radiograph of pelvis with contrast media.

The problem now remained of dealing with the raw area formerly occupied by the stricture. Simple plugging, with or without supplementary dilatations was unthinkable, as restenosis would surely follow such healing with granulation and fibrosis. However, the mobilized vaginal mucosa of the upper and lower thirds could now easily be approximated in a plane at right-angles to the axis of the vagina. All scars and even the best repaired incisions contract, and a simple anastomosis of these two vaginal cuffs would again have led to a measure of stenosis due to the circumferential scar. A way had to be found to minimize the contraction and increase the length of the anastomosis.

The plastic surgeon's standby in such cases is the 'Z-plasty'. This is a double transposition flap consisting of two interdigitated triangles on a common base along the line of the incision or contracture to be lengthened. If the triangular flaps are planned as equilaterals with angles of 60° , then their transposition will lead to a lengthening of the original baseline by

75%. Even when the individual limbs of this 'Z' contract, the over-all contracture along the original incision line is negligible. Thus one may both lengthen an incision line and prevent its subsequent contraction. In order to make the maximum use of this technique, four Z-plasties were used, spaced quadrantly around the circumference of the anastomosis. The interposition of these Z-plasties yielded immediate benefits for the examining fingers now could not detect any narrowing at the junction of the upper and lower vagina. Inspection by means of a large speculum was also quite easy.

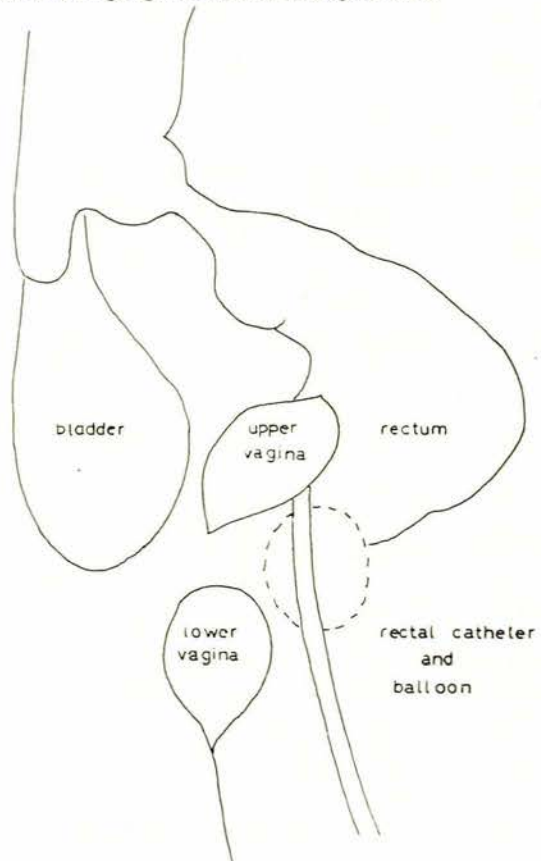


Fig. 2. Explanatory diagram.

The operative field had previously been carefully infiltrated with adrenaline/saline, 1:250,000, and this precaution had greatly facilitated both the extensive dissection and the meticulous planning and execution of the repair. Blood loss also was minimal.

Finally the vagina was plugged with paraffin gauze and this pack was left *in situ* for a few days. The operation was covered with antibiotics and recovery was uneventful.

Postoperative Recovery

The patient has been seen 3 months later and states that the menstrual flow is free and that any clots are easily passed. Vaginal examination shows a smooth cavity which admits 2 fingers. A slight narrowing is present in the middle third but this should yield to the natural dilatations to be expected in due course. In the event of pregnancy she would have to be delivered by caesarean section.

This case history illustrates the fact that circumferential incisions around a tubular organ tend to contract and cause stenoses by virtue of the normal healing process alone. This can be prevented by suitable plastic techniques.

SUMMARY

A case of a vaginal septum in a 12-year-old girl is presented. Recurrence of vaginal stenosis after initial incision was treated

by re-excision and a plastic repair of the apposed cut ends of the vagina. The use of a plastic technique in such cases is described and it should be considered in the treatment of similar cases of septa of the vagina.

We would like to acknowledge the interest shown by Dr. H. Edelstein, who referred the patient for plastic surgery, and to thank Dr. J. Smith for providing the illustrative X-ray and

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