

VAGINOPLASTY FOLLOWING VESICOVAGINAL FISTULA REPAIR: A PRELIMINARY REPORT*

J. S. DICK, M.R.C.O.G., *Lecturer in Obstetrics and Gynaecology, University College of Rhodesia*, AND R. M. STROVER, F.R.C.S., *Consultant Plastic Surgeon, Harari Hospital, Salisbury, Rhodesia*

SUMMARY

Vaginal stenosis with severe dyspareunia or apareunia often remains following the repair of a vesicovaginal fistula caused by an obstructed labour. Five patients have undergone vaginoplasty operations using full-thickness labial skin flaps, all with satisfactory results.

A vesicovaginal fistula is an obstetric tragedy too often found in African obstetric practice. We feel it will remain common in developing countries until the patient:doctor ratio is reduced and all women have access to satisfactory modern antenatal care.

Fibrosis and subsequent stenosis of the vagina is a complication of the vesicovaginal fistula resulting from obstructed labour. Repair of the vesicovaginal fistula does not necessarily make the vagina a satisfactory sexual organ and may, in fact, make a stenosed vagina worse. Severe dyspareunia, if not apareunia, may result. We report a few cases which have been treated in Harari Hospital, Salisbury, by a vaginoplasty procedure similar to that mentioned by Lawson and Stewart.²

Apareunia and dyspareunia is frequently seen in patients who have had vesicovaginal fistulae repaired. The aetiology of the condition is one of pressure necrosis which occurs during an obstructed labour. A vesicovaginal fistula develops on the anterior vaginal wall, whereas pressure on the posterior vaginal wall may result in a rectovaginal fistula. However, a fistula may not develop posteriorly and the rectum remains intact but the damaged area of

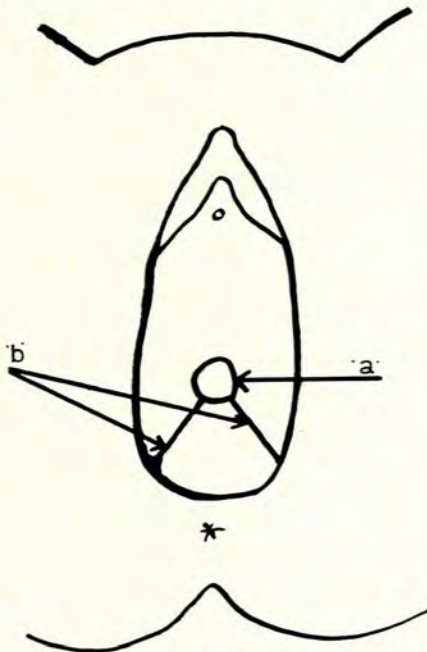


Fig. 1. Incision of the fibrous band.

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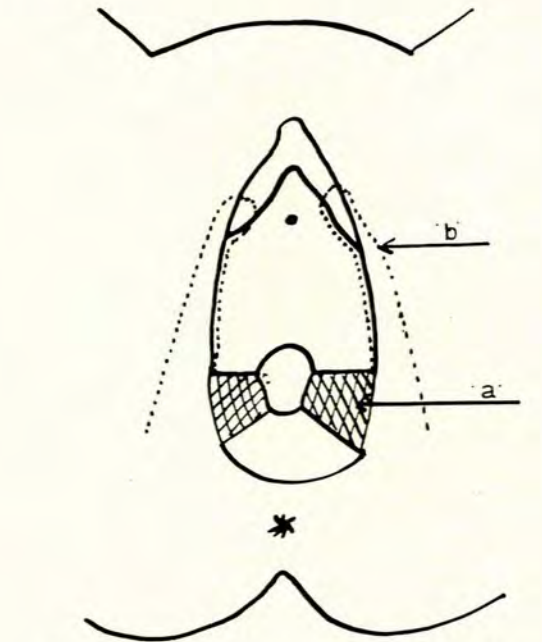


Fig. 2. The incisions are widened. See text.

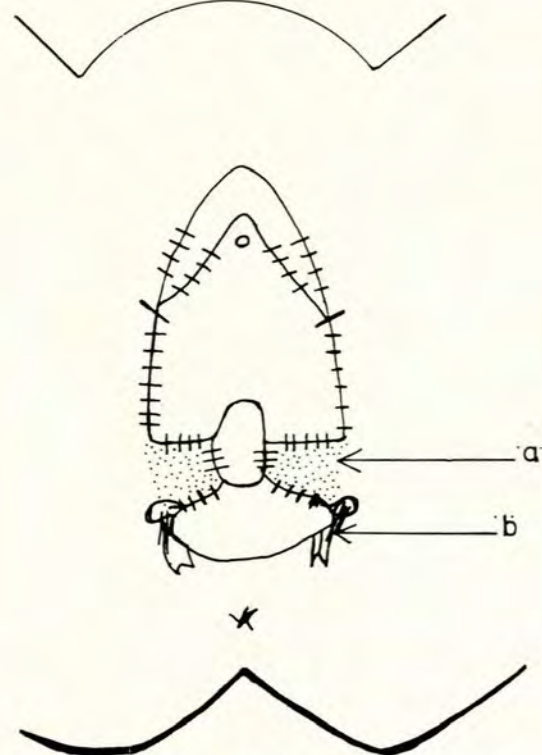


Fig. 3. The flap is closed and drained. See text.

posterior vaginal wall may subsequently heal by fibrosis and contracture. The resultant fibrotic bar in the posterior vaginal wall is an obstruction to intercourse.

It has long been established that if fibrous tissue is broken down it will reform with greater contraction than before. Simple incision even with repeated stretching is no solution. This is well demonstrated in patients who have had burns over joints if relieving incisions only are made. However, if full-thickness skin grafts or flaps are interposed between a divided fibrosed area the contracture does not reform. This is the principle employed when correcting vaginal stenosis due to fibrosis following ischaemic necrosis of the posterior vaginal wall.

MATERIAL AND METHODS

During the years 1968 and 1969, there were 4 418 patients discharged from the gynaecological wards of Harari Hospital, Salisbury. Of these, 127 patients developed a vesicovaginal fistula as a result of obstetric trauma, usually during their first pregnancy.

We performed a vaginoplasty operation on 5 patients to correct their vaginal stenosis. Their ages were 18, 19, 19, 24 and 35 years. All had had vesicovaginal fistulae repaired previously except for one patient whose fistula had closed spontaneously.



Fig. 4. Incision lines on flaps marked out with Bonney's blue.

The procedure is basically to incise the fibrous band (as in Fig. 1) in the posterolateral vaginal wall at 4-o'clock and 8-o'clock (lines 'b' in Fig. 1), allowing the fibrous band to fall backward, and then to place full-thickness flaps of labia minora into the defects thus produced.

Adrenaline 1:300 000 in saline is injected into the operative field and 5 minutes are allowed to elapse before making the relieving incisions in the posterolateral vaginal wall. While making these incisions the pudendal vessels may be damaged as they hook around the ischial spines—one of our patients had quite severe haemorrhage from this site during surgery.

The rectum is always pulled forwards by the fibrosis and is immediately behind the fibrous bar. One must be careful to keep the rectum intact by making the relieving incisions well lateral in the vaginal wall. The incisions are deepened down to healthy muscle and widened to produce wide defects ('a' in Fig. 2).

The labia minora are the areas of skin best selected for the flaps as they are non-hair-bearing and contain some erectile tissue, and have an excellent blood supply. Flaps are marked on the labia minora (lines 'b' in Fig. 2). The base of each flap should be about 3.8 cm wide and situated level with the fourchette. The lines of incision are infiltrated with 1:300 000 adrenaline and 5 minutes allowed to elapse before surgery is commenced. The base of the

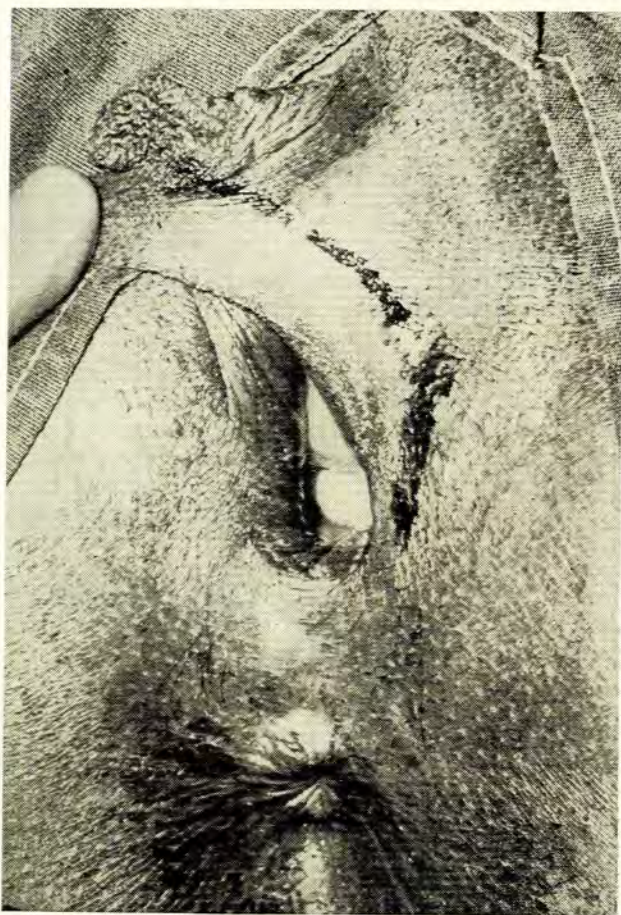


Fig. 5. Incision lines on flaps marked out with Bonney's blue.

flap is not infiltrated with adrenaline. Each flap is raised, taking the full thickness of the skin and ensuring that, as the base of the flap is approached, its thickness increases.



Fig. 6. The flap raised before insertion of flap and closure of donor area.



Fig. 7. One flap is in position with a corrugated drain protruding from beneath its base and the other flap raised and ready for insertion.

The flaps are handled carefully with skin hooks and raised by sharp dissection. Bleeders are tied with fine catgut and diathermy is never used. The raw surfaces of the clitoral end of the flap are spread out with short scissors.

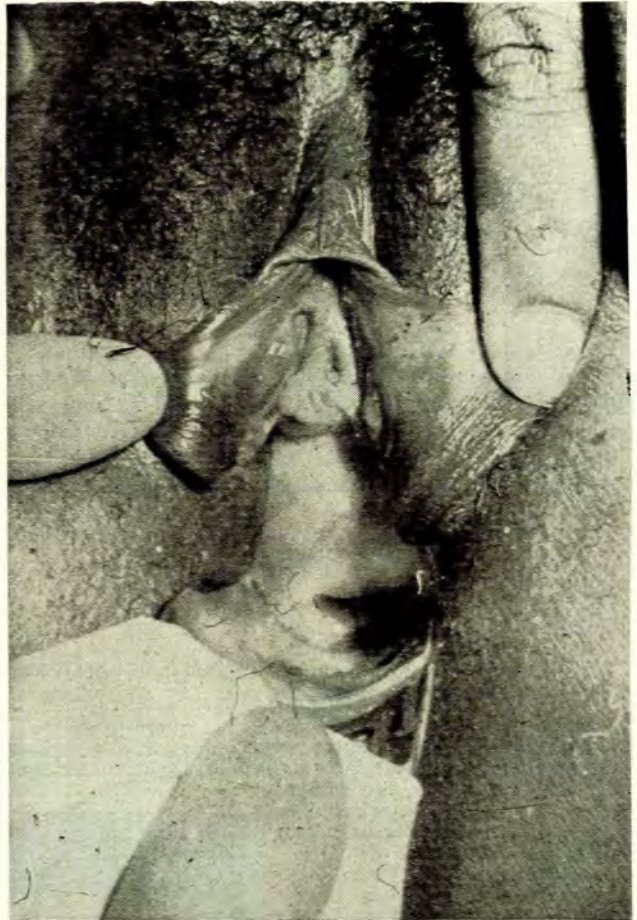


Fig. 8. The 3-month follow-up result. The Sims's speculum is 7.5 cm in length and the cervix can be seen at the vault. There is some fibrosis on the anterior vaginal wall at the site of the vesicovaginal fistula repair.

The flap is placed ('a' in Fig. 3) in position in the posterolateral fornix using interrupted atraumatic No. 000 chromic catgut sutures. A small corrugated rubber drain ('b' in Fig. 3) is placed under the flap and held in position with a stitch. The donor area is then closed with interrupted silk stitches; the labia have usually been removed quite near the clitoris and the small portion remaining can be usefully used to form a hood for the clitoris by suturing it to the bare area at the upper part of the donor site. A No. 16 Foley's catheter is inserted into the bladder and an acriflavine emulsion pack is placed in the vagina.

Postoperative Care

The patient is given a 10-day course of ampicillin to prevent urinary infection and also to reduce the risk of infection under the flaps. The pack is changed every 2-3 days under anaesthetic for 10 days. After the initial pack is removed glycerine and ichthyol 10% is used to soak the packs. This is hygroscopic and prevents the flaps becoming soggy.

The drains are removed on the second postoperative day at the changing of the pack. The catheter is removed on the 10th postoperative day with the pack and if all is well the patient is allowed home. Intercourse is forbidden and the patient is requested to attend for review in 2 weeks' time. If all is well, intercourse is then encouraged.

Follow-Up Examination

To date only 4 cases have had a 6-month follow-up examination. All the grafts have taken satisfactorily. In each case the vagina has been found to be soft and pliable and of satisfactory calibre and length. Coitus has been encouraged and has been reported to be satisfactory though a long-term follow-up will need to be carried out. The repaired fistulae have remained intact.

DISCUSSION

The *advantages* of this procedure are: (i) theoretically fibrosis and stenosis should not recur when full-thickness flaps are used; (ii) the vagina is adequate in both width and depth; and (iii) the stress on the anterior vaginal wall during intercourse is reduced by the enlarged vagina and the risk of recurrence of the vesicovaginal fistula is reduced.

The *disadvantages* are: (i) distorted vulval anatomy—

this is visible but perhaps less of a problem than the invisibly distorted vagina; (ii) haemorrhage—this has not been a problem so far (we believe that the use of adrenaline, careful haemostasis and the use of drains under the flaps should prevent serious mishaps; (iii) failure of flaps to survive—this has not occurred and should not, provided the base of the pedicle is adequate and diathermy is not employed; (iv) hair in the vagina—this could be a problem, especially for the husband, but if it is, elective cautery depilation of the few hairs could easily be carried out or a depilation cream used; (v) further deliveries must be by caesarean section; (vi) theoretically complications could occur from interference of the drainage of Bartholin's glands, but our follow-up is not yet long enough to be able to comment on this.

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REFERENCE

1. Lawson, J. B. and Stewart, D. B. (1967): *Obstetrics and Gynaecology in the Tropics*. London: Edward Arnold.