MICROSCOPIC TECHNIQUE FOR REVERSAL OF VASECTOMY

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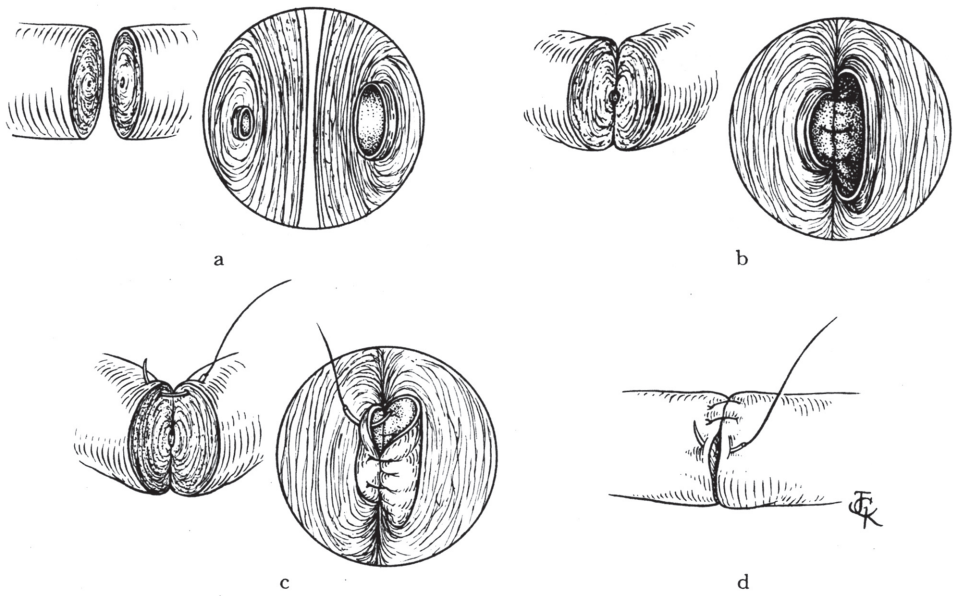

FIG. 1. Steps in microscopic technique of vasovasostomy. a, The lumen is inspected for patency. b and c, Mucosal anastomosis. d, Separate anastomosis of muscularis.

Microscopic Technique for Reversal of Vasectomy.—Sherman J. Silber.

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IT HAS BEEN ASSUMED that bilateral vasectomy for sterilization is rarely reversible. Indeed, by current surgical methods, ultimate success of anastomosis of the vas—impregnation of the patient's wife—varies between 10 and 30 per cent. In some series, sperm has been found in the ejaculate of a high number of patients after vasovasostomy, but the sperm count was normal in a small proportion only. For restoration of fertility after reversal of a vasectomy, a good sperm count and good motility are essential. This requires a perfect, nonobstructed anastomosis. The splinting techniques presently in use usually result in a strictured communication or a mere fistula.

TECHNIQUE AND DISCUSSION

A scrotal incision is made, and the vas deferens is exposed above and below the area of the previous ligation. The scar between the two free ends is excised, and the two open ends of the vas are then pulled into the field of a Zeiss operating microscope.

Under magnification ×10, the two ends of the vas are inspected after excising beyond the scar to ascertain that the lumen is open (Fig. 1a). Magnification is increased to about ×24, and a finely polished No. 3 or 4 jeweler's forceps is used to dilate the narrower distal part of the lumen, diameter ⅓ to ½ millimeter, to make suturing easier. No. 9-0 monofilament nylon sutures on a tiny cutting needle and a modified Barraquer needle holder are used to establish a separate mucosal anastomosis with four to six interrupted sutures (Fig. 1b and c) It might appear at first that a suture through the entire thickness of the vas muscularis and into the lumen would be easier to accomplish. However, such an approach does not allow a precise junction of the mucosal lining of the two cut ends, leads to sperm leakage and subsequent stricture and makes placement of following stitches into the lumen more difficult. Without a perfect, nonstrictured anastomosis, adequate numbers of sperm cannot be transferred to the semen at the time of ejaculation. In addition, a strictured anastomosis with partial obstruction suppresses normal spermatogenesis.

The muscularis is then approximated separately with eight to ten No. 9-0 nylon sutures (Fig. 1d). This layer insures a watertight anastomosis and will allow proper conduction of peristalsis at the time of intercourse.

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SUMMARY

This microscopic technique for reversal of a vasectomy requires intensive training on small animals in the laboratory before it can be attempted on humans. It has assured sperm in the ejaculate of all patients who have sperm in the proximal portion of the vas at the time of vasovasostomy, good sperm count and motility three to five months later in 90 per cent of them and early pregnancy of the spouse in 50 per cent. Longer follow-up periods will be necessary to estimate how high the eventual success rate will be, but it appears at this juncture that this approach is preferable to nonmicroscopic splinting techniques.