

INGUINAL VASOPLASTY

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SUMMARY

The present paper is based on a study of eighty-two cases of vasoplasty done through an inguinal approach. In all the cases, 3/0 prolene splint was used. An end-to-end anastomosis, using 6/0 prolene suture provides an accurate repair. This is a simple method and ensures a high success rate. In 71.3% cases semen became positive for sperms. Conception rate was 56% in our series. The authors prefer this approach because of easy mobilisation of vas, gain in length of vas by about 1.5 cm. after division of internal oblique muscle and inferior epigastric artery. There is less chance of infection by this approach and technique.

Introduction

The need for vasoplasty has gradually increased with vasectomy coming to be accepted as a method of family planning in India. The technical success of the operation is judged by semen examination and subsequent conception.

Materials

The present paper deals with 82 cases of recanalisation carried out by the authors during a period of 10 years from Jan. 1970 to Dec. 1979.

The reasons for the need for recanalisation were as follows:

1. Remarriage	35 cases
2. Loss of last surviving son	20 cases
3. All children died	12 cases
4. Bachelors	15 cases

The age group varied from 18 years to 45 years.

Technique

Under general anaesthesia an inguinal incision is made. Spermatic cord is mobilised along with the testicle by blunt dissection. Thorough haemostasis is achieved. The testicle and the spermatic cord are delivered into the wound by pressure on the scrotum. The two

cut ends of the vas are palpated (Fig. 1). The external spermatic fascia and the cremaster

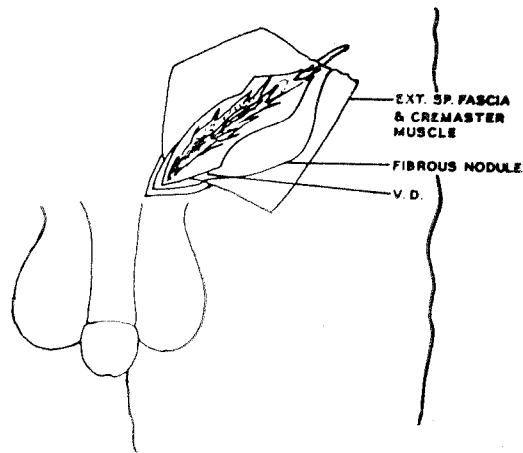


Fig. 1. The nodule identified on exploration of vas.

muscle are incised over the nodular ends of the vas which are then dissected free from the fibrous tissue. Vas deferens is mobilised for one centimeter proximal and distal to the nodule. The mobilisation is as minimal and gentle as possible.

The proximal cut end is freshened with sharp knife. Serial sections are made till the cut end shows milky/watery discharge. The distal end is dealt with similarly till the lumen of the vas is clearly visible. Once the

lumen is visible the distal end is irrigated by injecting 8-10 ml of normal saline which should flow in smoothly. This means there is no distal obstruction. A 19 gauze needle is now passed into the lumen of the proximal cut end of the vas upto 3-4 cm or so and pushed through the wall of the vas and the covering scrotal skin. A 3/0 prolene is then threaded through the lumen of the needle and the needle is withdrawn. The other end of the prolene is then passed into the lumen of the distal end of the vas for 5-8 cms. A stab incision is given parallel to vas and prolene is delivered out (Fig. 2). The two cut ends of the vas are now anastomosed with 6/0 atraumatic prolene by four interrupted sutures.

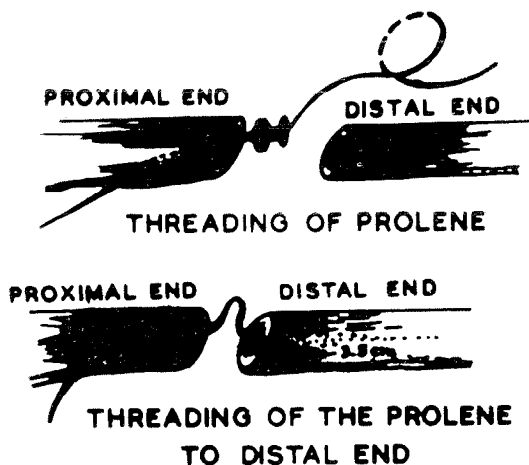


Fig. 2. Threading of the prolene in proximal and distal ends.

The cremasteric and the external spermatic fascia are repaired by 4/0 chromic catgut. The prolene is anchored by D. B. collars on either side (Fig. 3). In cases where after excision of fibrous nodule, end-to-end anastomosis was not possible due to shortage in length of vas by about 1-1.5 cm, the extra length of the vas was gained by division of internal oblique muscle and inferior epigastric artery. A testicular biopsy is taken from both the sides and then the testicles are gently pushed back into the scrotum. The inguinal

wound is closed in layers. A scrotal support bandage is applied.

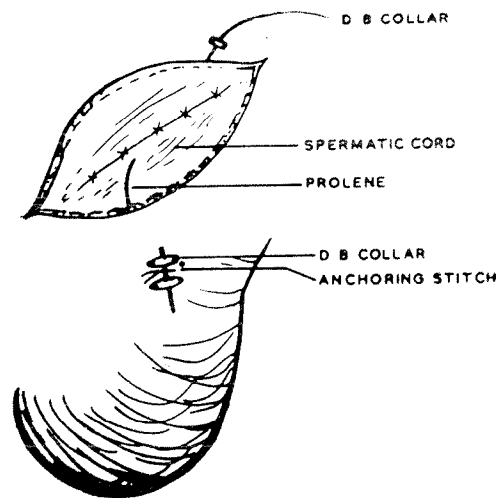


Fig. 3. Closure of the wound and fixation of prolene.

The post-operative regimen is strictly adhered to since it may make all the difference between success and failure of the operation. The patient is not allowed to get up at all for 7-10 days. Bed pan is used for micturition and bowel action. An upright position with loose scrotal bandage may put tension on the anastomosis and this must be avoided. Skin stitches are removed on the 7th day but the prolene splint is pulled out only on 10th day.

Operative findings

In 70 cases a single nodule involving both the ends of the vas was found. Anastomosis of the two ends without tension was easily achieved. In 8 cases the gap between the two ends was 2-3 cms. Such gaps were overcome by mobilisation of the cord after incising the internal oblique muscle and division of the inferior epigastric artery. In the remaining 4 cases the level of the vasectomy was so low that there was no choice except to attempt an vaso-epididymostomy.

Results

Semen examination was done 6 to 8 weeks after the operation. Nine patients had azospermia.

In 7 of them testicular biopsy had shown germinal cell aplasia, peritubular fibrosis and atrophy. The other two cases showing azospermia belonged to the vaso-epididymostomy group. It is fair to assume that the operation was technically successful in 66 cases out of 82 and a distinct failure in only 2 cases where vaso-epididymostomy was done and the testicular biopsy was normal. In the remaining 7 cases it is hard to opine in view of testicular biopsy reports. 32 out of the 66, who were semen positive for sperms have become fathers.

Discussion

The authors feel that the technique for vasectomy must be standardised in such a way that recanalisation when needed can be carried out with confidence and success. The optimum time for recanalisation after vasectomy has to be found out. It is hard to accept the contention of Phadke and Phadke (1967) that the time interval between vasectomy and recanalisation does not matter at all and that the testicles would always recover their function. In our study, 7 out of 82 testicular biopsies showed atrophic seminiferous tubules in those males who had children before. The time interval in these cases varied from a minimum of one

year to a maximum of ten years. It appears therefore, that ligation of vas, in due course depresses the regeneration capacity of the seminiferous tubules. We feel the optimum time for recanalisation appears to be within 3 years after the vasectomy.

The discrepancy between presence of sperms in semen and pregnancy may be because of fertility relativity (Derrick et al., 1973).

The inguinal approach for recanalisation has certain advantages which can make all the difference in the success of the operation. The chance of blood collection is negligible as compared to the scrotal approach where oozing in the loose connective tissue around the cord is unavoidable.

Splintage is a controversial step. O'Connor (1961), Phadke and Phadke (1967) and Sharma and Chandra (1969) have advocated the use of an internal splint to ensure proper alignment of the lumen. Taneja et al. (1978) however have condemned the use of splint because it becomes a route for infection. Fernandes et al. (1968) and Schmidt (1975) have given up its use. Our results did not seem to bear out such contentions. If perfect haemostasis is conscientiously aimed at and perfect asepsis is maintained, the chances of infection are negligible.

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