

NORMAL INTRAUTERINE PREGNANCY AFTER REVERSAL OF TUBAL STERILIZATION IN THE WIFE AND VASECTOMY IN THE HUSBAND

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Recent microsurgical developments have led to a significant improvement in pregnancy rates after reversal of sterilization procedures. In females microsurgical tuboplasty has increased the pregnancy rate from 20% to as high as 80%.¹⁻³ Vasectomy reversal has also resulted in pregnancy rates of close to 80% provided the spouse has no serious gynecological abnormalities.⁴⁻⁸ We are not aware of any previous reports where the spouse has had a tubal ligation and the husband has had a vasectomy, each in a former marriage, and both desire to have more children in their new marriage. In fact, such a couple might normally not be accepted for surgery by the gynecologist because of the husband's problem and the husband might not be accepted by the urologist because of the wife's problem. Because of the increased success of reversal of sterilization in both men and women, we accepted such a case in the summer of 1977.

CASE REPORT

Husband. The patient was a 39-year-old man who had had a bilateral vasectomy 11 years previously. He had had three children from a previous marriage. Neither he nor his wife at the time of her sterilization had considered that they would ever desire more children. His economic situation and life-style since then had changed considerably and he and his wife now were desirous of having children in this marriage. His past medical history was unremarkable and the physical examination was normal except for bilateral epididymal engorgement typically seen after a long-term vasectomy. His follicle-stimulating hormone level was 7 mIU/ml (normal, 3 to 17

mIU/ml), his luteinizing hormone level was 21 mIU/ml (normal 6 to 30 mIU/ml), and his testosterone level was 732 ng/100ml (normal 300 to 1200 ng/100 ml). A chest x-ray, electrocardiogram, and SMA-12 chemical profile were normal.

On June 8, 1977, a bilateral microscopic reconstruction of the vas deferens was performed (Fig. 1, A, B, and C). The vas fluid sample on the testicular side of the vasectomy site demonstrated a large number of morphologically normal sperm, many of which were motile on both the right and the left. The patient's initial sperm count at 1 month postoperatively was 9,200,000/ml with a 2.5-ml volume and 10% motility. Two months postoperatively it was 32,200,000/ml with a volume of 3 ml and 35% motility. At 3 months postoperatively the patient had a transient episode of flu and the sperm count was 3,400,000/ml with volume of 3 ml and a motility of 25%. Four months postoperatively the count was 40,800,000/ml with a 3-ml volume and 40% motility, and 5 months postoperatively it was 320,400,000/ml with a volume of 3 ml and 85% motility.

Wife. The patient was a 32-year-old woman who had undergone bilateral abdominal tubal ligation by the Irving technique in the isthmic region with minimal tissue destruction 8 years previously. All four of her children by the previous marriage were living with her. The physical examination was unremarkable and she had an abdominal midline surgical scar. Her uterus was slightly enlarged but there were no masses and no fixation. Chest x-ray, electrocardiogram, and routine blood studies were normal.

On July 20, 1977, a tuboplasty was performed utilizing a microsurgical isthmic-cornual anastomosis¹⁻³ (Fig. 2). Her postoperative course was unremarkable. Hysterosalpingography 2 months later, performed by a referring physician,

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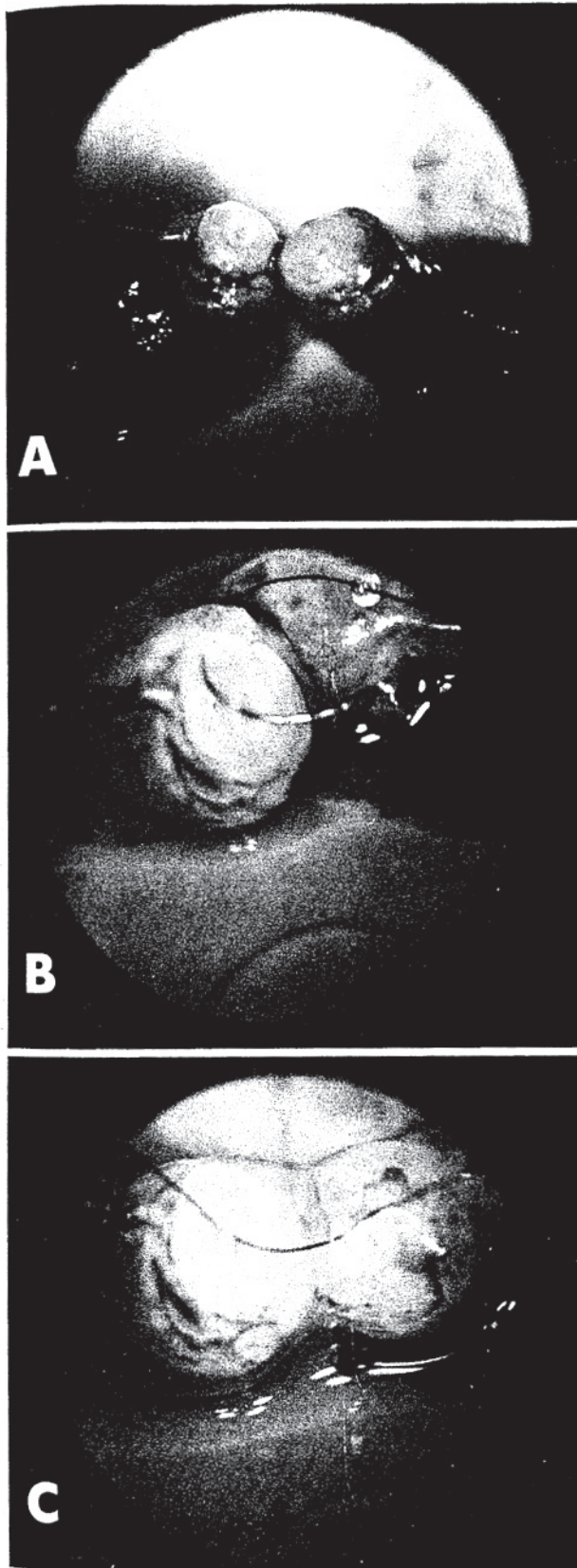


FIG. 1. A, Two ends of vas deferens prepared for anastomosis. B, First mucosal suture being placed. C, First 9-0 nylon suture about to be tied (A, $\times 7$; B, $\times 17$; C, $\times 25$).

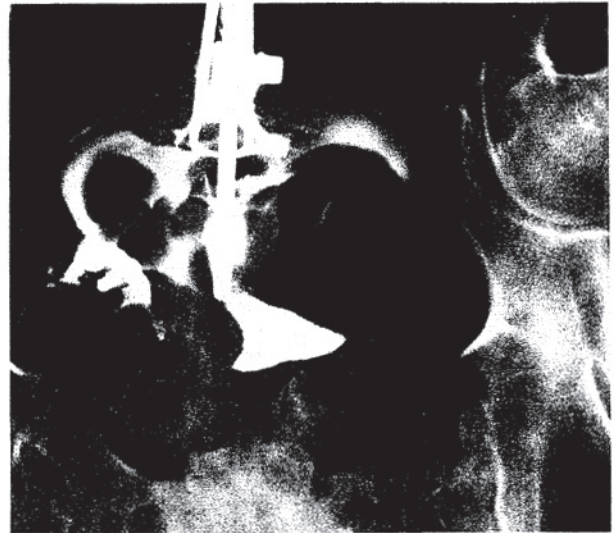


FIG. 2. Typical, normal appearance on hysterosalpingography postoperatively.

revealed normal patent tubes. On March 8, 1978, 8 months postoperatively, the patient had her last menstrual period and approximately 1 month later a positive pregnancy test was confirmed. She was subsequently judged to have a normal intrauterine pregnancy which is progressing uneventfully into the 7th month.

DISCUSSION

Several series of vasectomy reversals and tuboplasties have demonstrated greatly improved fertility rates using microsurgical techniques.¹⁻⁸ However, it was with trepidation that we undertook to reverse sterilization in both husband and wife. With pregnancy rates reported in earlier series averaging 10% to 30% when only one partner had been sterilized, one might expect a success rate in the neighborhood of 3% when both partners had been sterilized. It is because we estimated a much higher potential for pregnancy with microsurgical techniques that we accepted the case.

It is difficult in such a situation to decide which partner to operate upon first. One would hesitate to subject the wife to an abdominal procedure if it developed that her husband had a marginal sperm count after his operation. Likewise, it would be discouraging to perform a successful procedure on the husband and achieve a good sperm count if, when operating upon the wife, one were to find little or no fallopian tube with which to work. We knew that the wife had undergone a minimal resection of fallopian tube (Irving procedure), and therefore in this case we felt that it

would be appropriate to operate first upon the husband. In a subsequent case, we have operated in reverse order. After the wife had a good reconstruction, the husband then underwent successful reversal of his vasectomy.

These cases highlight some factors other than the surgical technique which may also have some bearing on the success of reversal of sterilization in couples. In men there is a buildup of pressure in the vas and epididymis after vasectomy which causes a dilatation of the epididymal tubule and rete testis, and the duration and degree of this pressure has a significant effect on the likelihood of restoration of fertility. However, the length of vas removed, the area of vasectomy site, or the type of vasectomy performed have little bearing on a male's potential for sperm output. On the other hand, in the female there is no buildup of pressure, as the tubal fluid spills freely into the peritoneal cavity, and therefore the time interval since the tubal ligation has no bearing on the

outlook. The amount of tube removed or destroyed by the sterilization procedure, however, may be very significant.

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