Vasovasostomy: Efficacy and Cost Containment by Outpatient Loupe Magnification Anastamosis

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Since the number of vasectomies has grown to over one million per year, the number of requests for vasovasostomies has correspondingly increased. Controversy continues to surround the best and most cost-effective technique for performing vasovasostomies; however, a recently published review reported patency rates of 85 percent and 79 percent and pregnancy rates of 57 percent and 61 percent, respectively, for microscopic and loupe magnification anastamoses.[1] Loupe magnification techniques are less time consuming, do not require an expensive microscope, and can be done easily on an outpatient basis. This report describes the experience at one institution with loupe-magnified vasovasostomies now performed in ambulatory surgery for less than a $2,000 total patient charge.

METHODS

Between July 1971 and July 1984, 58 bilateral vasectomy reversals were performed on men aged between 24 and 54 years (mean 37 years). The time interval between vasectomy and reversal ranged from 1.5 to 11 years (mean 6 years). The operation is performed as an ambulatory procedure under general anesthesia, using 2.5 to 4.0 magnification loupes, the only other special equipment consisting of microvascular surgical instruments. The site of previous vasectomy is identified and excised. Healthy and patent proximal and distal ends are identified with patency proven by probing the lumen with 4-0 prolene suture material. Sperm flow from the proximal vas deferens is obtained before the anastamosis is performed. Seromuscular sutures of 7-0 prolene are then placed to accomplish the anastamosis. In most cases the anastamosis is stented with 4-0 prolene, which is brought out through the scrotal skin and removed on the seventh postoperative day. Total patient cost is less than $2,000, including fees of the surgeon and anesthesiologist.

RESULTS

Nine of the 58 patients never returned for follow-up sperm analysis or responded to a questionnaire regarding the success of the procedure. Of the 49 evaluable patients 41 (85 percent) had sperm present on a follow-up ejaculate examination. Twenty-five pregnancies were reported (52 percent); however, three resulted in spontaneous abortions (6 percent). One of these patients did have another pregnancy resulting in the birth of a normal child. There were no surgical complications, and the majority of the patients resumed their regular occupation within three to four days.

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DISCUSSION

In 1983 Cos and associates[1] reported the six-year experience of vasovasostomies in the United States using six different techniques. The results overall revealed a patency rate of 81.5 percent and pregnancy rate of 53.3 percent. When broken down into type of anastamosis, the highest patency rate was 90 percent using a microscopic two-layer unstented technique; however, the highest pregnancy rate was found with a loupe magnification one-layer stented technique. This difference suggests that there are more important factors than technique that determine pregnancy rates in those patients undergoing vasectomy reversal. Silber and associates[2] stated that low sperm counts caused by continuing partial obstruction are associated with lower pregnancy rates, a finding confirmed by Lee and McLoughlin.[3] In another report Silber[4] noticed that if the time lapse between vasectomy and reversal was less than ten years, the recovery of sperm in the ejaculate was 91 percent; whereas, if the time span was greater than ten years, the success rate was 35 percent. An interval of less than two years resulted in 100 percent of the reversals having sperm in the ejaculate. Probably a more important factor in predicting success is the presence of sperm in the vas deferens fluid at the time of reversal. When the interval between vasectomy and reversal was less than five years, only 2 of 27 patients did not have sperm in the vas fluid at the time of reversal compared with 6 of 12 patients who had reversal five to ten years following vasectomy. If reversal was performed greater than ten years postvasectomy, 14 patients in Silber's series had no sperm in the vas fluid, all of whom remained azoospermatic.[4] It is therefore important to explore the vas further toward the epididymis until sperm are found before the anastamosis is performed. Finally, reduced sperm motility and the presence of antisperm antibodies after vasectomy may influence subsequent fertility; however, their relationship to vasovasostomy has yet to be clearly identified.

Although a number of urologists have turned with enthusiasm to using the operating microscope because a more precise, leak-proof or perfect vas anastomosis can be accomplished, careful and precise nonmicroscopic techniques performed by experienced surgeons result in comparable patency rates.[5] In addition, a microscopic vas anastamosis is costly. The equipment is expensive, the surgical fees range from two to ten times higher than those for macroscopic techniques, and because the procedure takes longer, the operating room and anesthesia charges are higher and often hospital admission is required. Since a precise microscopic anastamosis does not alleviate the major problems with the success of vasovasostomies, it seems that the use of the microscope for these procedures is not cost effective. For this reason vasectomy reversals can continue to be done with loupe magnification in ambulatory surgery for minimal cost.

References

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