

Vasectomy: Principles and Comments

Stanwood S. Schmidt, MD

In this issue Alderman¹ presents a study of the complications in a series of vasectomies that were performed by a single surgeon (himself) using a uniform technique. As is common practice, most of these operations were office procedures, to which the family physician can readily relate.

Vasectomy is the most common operation in men. Many couples, anxious about controlling their fertility, will consult their family physician for advice. Certainly, it is these specialists who perform the majority of vasectomies. Although the surgical procedure is simple, the physician must study it and must be able to counsel patients properly.

It is essential that the physician realize that these are often *frightened* men. Every man knows that the testes are particularly sensitive organs. Many men have been teased by their friends about having a vasectomy, and have been told that their voices will change, they will become fat and lazy, and so on. These notions must be rebutted by the physician, using the patient's language so that he understands and accepts the information presented. I use a booklet,² others use a videotape. Regardless of which educational tools are used, each patient and his wife should have a face-to-face interview with the physician who will perform the procedure. At that time questions are answered, the patient gains confidence in the physician, and the physician evaluates the patient's mental state.

I explain to the couple that the testes are a factory with two production lines, one for sperm and one for male hormones, and that the vasectomy is a roadblock that keeps new sperm from reaching the outside. I tell them that I will treat him as I would want to be treated—and that I would be the biggest coward in town! I reassure him that he will not lose his manhood and that he will continue to have all of the fun and sensation during sex that he has always had; that after we have

tested and found him sterile, the only change will be that he and his partner will be spared the recurrent anxiety of a potential pregnancy.

The couple is advised to choose vasectomy only if they will accept permanent sterility, but they are also told that a vasectomy reversal often succeeds. I explain that the "sperm warehouse" must be emptied before they may discontinue other forms of birth control. Finally, they must be told that you, or an acceptable substitute, will be available if a problem arises postoperatively. Panic can result if a complication occurs and there is no physician to turn to.

Alderman has reported on the complications in a sizable series of vasectomies performed over a period long enough to uncover most complications. His list is comprehensive, but he does not tell us of the psychosexual problems that may arise postoperatively. I find that in my patients, the rate of such problems in men who have had a vasectomy is no higher than the rate in men who have not had a vasectomy. I attribute this to good preoperative counseling. It may also be that the man who is uncertain about his sexuality would not undergo a vasectomy. Perhaps a future study by Alderman will tell us how common it is for men to consider vasectomy but not to reach the interview stage, as well as how many men discuss having a vasectomy with their physicians but proceed no further. These, too, are types of complications.

Alderman and I use different surgical techniques. His results are certainly respectable, although I shall continue to differ. He removes a segment of vas. I see no advantage in this and find that it increases the difficulties of a future reversal. I do not use ligatures on the vas (no more than I would ligate the bowel), nevertheless, his method of using many ligatures of Dexon may create long, firm scars at the cut ends. Regrettably, he does not tell us what the ligated vas looks like when it is exposed at a later vasovasostomy. In contrast, I cauterize the cut ends of the vas so that the mucosa is destroyed and the muscularis is left viable; I then interpose the fascial sheath of the vas between the ends.³ When a thermal ("red hot wire") cautery is used,⁴ a solid plug of scar tissue results

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From the Department of Urology, University of California, San Francisco. Requests for reprints should be addressed to Stanwood S. Schmidt, MD, Department of Urology, U-575, University of California, San Francisco, CA 94143-0738.

with a minimum of spermatic granuloma formation and of vasitis nodosa. Should sperm escape the vas, the fascial barrier will prevent their reaching the urethral side and perpetuating fertility.

Infection was the most common complication in Alderman's series; however, the figure of 3.8% is respectable. If I suspect an infection, I also prescribe an antibiotic, and I also use tetracycline. Alderman does not mention a condition that can be mistaken for a complication of vasectomy, funiculitis, an infection caused by reflux of infected urine into the vas. Although the vas is then infected up to the point of vasectomy, the vasectomy prevents the infection from reaching the epididymis.⁵ His patient with hematuria may have been such a case.

I have never seen bacterial epididymitis after a vasectomy, and find that the above described procedure prevents this. The cases I see are due either to an engorgement of the epididymal tubules with sperm (tender thickening of the entire length of the epididymis) or to a granuloma in the cauda of the epididymis. The first always subsides spontaneously, but it may recur. The granuloma usually becomes silent, although occasionally continued pain may require removal of the epididymis. These conditions occur regardless of the vasectomy technique used. Like Alderman, I cannot explain why the "congestive epididymitis" is unilateral. I have never seen true orchitis postoperatively, although a vasectomy would not protect a man from mumps orchitis.

Spermatic granuloma is a condition peculiar to the vas and epididymis and is caused by leakage of sperm into the tissues.⁶ When the vas has been ligated, it is often found at the testicular end. Agonizing pain can result if a branch of the spermatic nerve is included in the inflammatory wall of the granuloma. Pain also can occur with ejaculation when a surge of spermatic fluid distends the wall. Happily, most granulomas are silent and are discovered at vasovasostomy. Any tender nodule at the testicular end of the vas may be a granuloma. When symptomatic, it should not be excised. Rather, sealing the vas on the testicular side of the nodule (shutting off the flow of sperm) will make the granuloma disappear.

Careful surgical technique will control all bleeding before the wound is closed. I customarily wait several minutes before bandaging to be certain of hemostasis. Postoperative application of an ice bag and a period of several hours of bed rest will reduce pain and guard against bleeding.

Alderman cites three failures, two of which resulted from missing the vas. In one case he suspected congenital absence.⁷ If this seems probable, one should search for the vas at the cauda of the epididymis, where the vas arises, and at the external inguinal ring. The vas has a

characteristic feel, although the size does vary between individuals. If you are uncertain, sever only the vas that you are sure of. In true congenital absence, later testing will show the absence of sperm after unilateral vasectomy. About his other case, I can surely sympathize. My most difficult case involved a short fat man with a small scrotum who had had an orchiopexy in childhood. I finally found the vas, buried in scar tissue. The one case of recanalization is an acceptable incidence, provided that the patients are warned about the possibility of this and of the need for testing.

Alderman also describes "technical failures," wherein a few sperm were seen months after the operation. Vasitis nodosa, in which a Medusa's head of channels reaches out from the testicular end of the vas, could explain this "technical failure" if one such channel reached the urethral end. The answer will await reoperation and both radiographic and histologic examination of one of these cases.

Rather than waiting a certain length of time to commence testing for the absence of sperm, I ask for a first specimen after the 15th postvasectomy ejaculation. When this is negative, I ask for a second, 1 month later. When still negative, I tell the patient that he has "graduated." I feel that 15 "shipments" will usually empty the warehouse. I test for a total absence of sperm; thus, condom specimens are acceptable. One word of caution: if a man has had a vasectomy and his wife becomes pregnant, insist that the semen sample for testing to determine if he is sterile be produced in your office. Only then can you testify that it was his.

Vasectomy has been accused of causing many systemic problems, and continues to be so accused despite the extensive study of Massey and others.⁸ To date there is no evidence that vasectomy has any adverse effect upon the rest of a man's body. As these patients will tell you, it makes sex more carefree, and that is all.

Some patients will ask about preoperative sedation. As most will drive themselves home afterward, I fear altering their reaction time and have found sedation unnecessary. Rather, I talk to the men, tell them what to expect, and then talk about hobbies, sports, or whatever while the operation proceeds. "Verbal analgesia"? Yes.

In summary, vasectomy is an operation that is common in family practice and is safe in careful hands. Its principles are simple, but important, and must be studied before performing the procedure. Vasectomy is commonly an office procedure performed with local anesthesia. Preoperative preparation, by meeting the patient and explaining what will be done, is mandatory. Complications are uncommon, but must be watched for and understood.