

## LETTERS TO THE EDITOR

## No-Needle Anesthetic for No-Scalpel Vasectomy

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to the editor: Vasectomy continues to be underused compared with tubal sterilization among couples seeking permanent contraception in the United States. Fear of the procedure remains a barrier to increased acceptance of vasectomy. The no-scalpel vasectomy accounts for about one third of all vasectomies in the United States; however, many men have a fear of the local anesthetic. I would like to report my experience with no-needle anesthetic administration for the no-scalpel vasectomy as another step forward in reducing patient fear and hesitation in accessing vasectomy.

I have recently devised a method of using the MadaJet, a jet injection device, to administer the local anesthetic for no-scalpel vasectomy. This device has been commercially available for more than 20 years. It has been marketed for applications in dentistry, gynecology and podiatry, as well as other medical applications.

The MadaJet emits a fine stream of anesthetic solution, which normally penetrates about 4 mm into tissues and distributes throughout a circle of about 1.0 to 1.5 cm in diameter. Although the volume of a single discharge is a small 0. mL, the anesthetic effect is immediate, suggesting that the dispersion within the tissues is faster and more efficient than with a needle injection.

Caution is indicated with the MadaJet, because the stream can pass through the patient's tissues and exit with enough force to penetrate the operator's gloved finger. For the safety of the operator, it is important that the MadaJet be directed away from the operator's fingers, similar to the use of a hypodermic needle. The approach I have used is described here.

The three-finger grasp is modified from the usual no-scalpel vasectomy technique. The operator places the index finger next to the middle finger posterior to the scrotum, with the thumb anterior. As the vas is elevated, the tip of the MadaJet is placed against the scrotal skin next to the operator's thumb. It has been helpful to fashion a groove in the plastic tip to help hold the vas in position. The stream is directed posteriorly, between the operator's middle and index fingers.

The discharge button is actuated, releasing the instantaneous jet of 2 percent lidocaine. The sensation described by patients is comparable to the snap of a rubber band against the skin. The jet penetrates the skin at a single puncture site, which may be visible as a pinpoint mark. If the solution contains epinephrine, one can sometimes see a blanching effect on the skin surface.

The MadaJet is cocked again and the contralateral vas is brought into position under the anesthetized skin site and anesthetized. Anesthesia of the vasa deferentia is sufficient to complete the vasectomy without additional infiltration in 90 percent of cases. When augmentation is necessary, local infiltration is well tolerated and effective. This no-needle method obviates the small risk of spermatic cord hematoma that can occur when a needle is advanced along the vas in the usual administration of a perivascular block.

From informal inquiries among my colleagues, it seems to be infrequent that needle-less devices are used in the family practice office. I believe the no-needle anesthetic described here is a useful choice for the administration of local

anesthesia in vasectomy and in many other common office procedures.

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