Laparoscopic vasectomy *en passant*

Robert Patterson, MD, FRCSC;* Claire L. Temple, BA;† Robert H. Mulloy, MD, FRCSC*

Over the last few years most general surgeons have incorporated laparoscopic surgery into their clinical practice. Initially promoted primarily for cholecystectomy, the technique has been expanded to include such diverse procedures as herniorrhaphy, appendectomy, vagotomy, adrenalectomy, splenectomy and colectomy.

Several times a year in our practice, a male patient scheduled for a laparoscopic procedure will request concomitant sterilization through vasectomy. We have developed a simple laparoscopic approach to vasectomy.

Technique

The abdomen is entered through the standard infraumbilical incision. In addition to the camera port, two further ports are required: a 5-mm opening for a dissector and cautery hook, and a 10-mm opening for a clip applier. These trocars are placed on each side of the umbilicus, as is standard procedure for pelvic surgery; however, ports situated for upper abdominal surgery should also allow access. The vas deferens is readily identified as it traverses laterally and superiorly, crossing the medial umbilical fold to join the epigastric vessels at the internal inguinal ring (Fig. 1). Care must be taken to identify and avoid the external iliac vessels, since injury to a major vessel could be catastrophic. Medial to the internal ring, avoiding the testicular vessels, the overlying peritoneum is opened for 1 cm, either sharply with scissors or bluntly by spreading a dissector while pressing against the abdominal wall. The vas deferens is easily isolated and mobilized with the cautery hook (Fig. 2). The vas is then clipped, transected and cauterized on each end (Fig. 3). We do not take a segment of the vas for confirmation, although this could easily be done. The peritoneum is not reapproximated.

Discussion

Laparoscopic vasectomy for dogs and llamas has been described.[1,2] However, its use in humans is relatively new, with only three case reports published to date.[3–5] As with any surgical therapy, potential risks and benefits must be carefully considered.

Recently at our institute, laparoscopic vasectomy was carried out on three patients, all in their fourth decade of life, who underwent laparoscopy for other reasons — two for herniorrhaphy and one for exploration of chronic abdominal pain attributed to possible bowel obstruction. With the intra-abdominal approach, scrotal incisions were not required. The procedure took approximately 5 minutes of operating time. All the patients experienced mild postoperative groin pain, which was easily controlled with a short course of Tylenol No. 3. There was no evidence of infection, hematoma or scrotal swelling at 1-month follow-up. Semen analysis, done routinely 6 weeks postoperatively in our patients, showed that all three had attained an infertile state.

A potential disadvantage of laparoscopic vasectomy may be the inability to reverse the infertility. Traditional vasovasotomy done in the scrotum has a functional success rate of approximately 50%. To our knowledge, no one has ever attempted intra-abdominal vasovasotomy after laparoscopic vasectomy; therefore the success rate is unknown. The patient should consider seriously the definitive nature of the procedure beforehand.

Another concern is cost. As a primary procedure, the laparoscopic approach would require general anesthesia, and considerable expense will be incurred for instruments and operating room personnel. Therefore, it is feasible only in selected instances. The most likely clinical scenario is a patient scheduled for laparoscopic hernia repair who also desires a vasectomy.

*From the *Department of Surgery, University of Calgary, Calgary, Alta. and †Queen's University Medical School, Kingston, Ont.*

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Correspondence to: *Dr. Robert Mulloy, Department of Surgery, Calgary General Hospital, 841 Center Ave. E, Calgary AB T2E 0A1*

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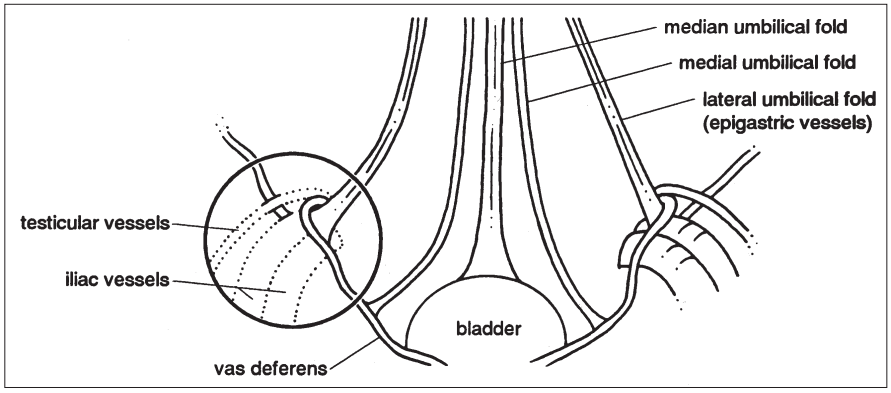

FIG. 1. Internal view of anterior abdominal wall, showing location of vas deferens.

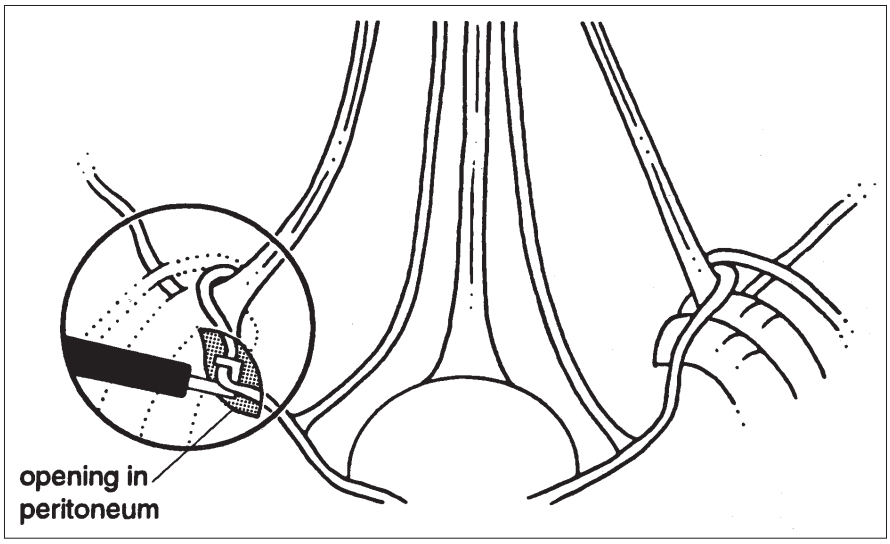

FIG. 2. Overlying peritoneum has been opened and vas deferens grasped with cautery hook.

Intra-abdominal vasectomy may be contraindicated if there has been peritoneal soiling from any concomitant procedures. As in traditional vasectomy, the patient is advised to practise protected intercourse until motile spermatozoa are no longer present on examination of seminal fluid.

Conclusions

Laparoscopic vasectomy is a safe alternative to the standard approach. However, because laparoscopic vasectomy carries the inherent risk of a general anesthetic and requires more resources, we do not recommend it as a primary procedure. Furthermore, reversal may prove to be difficult or impossible.

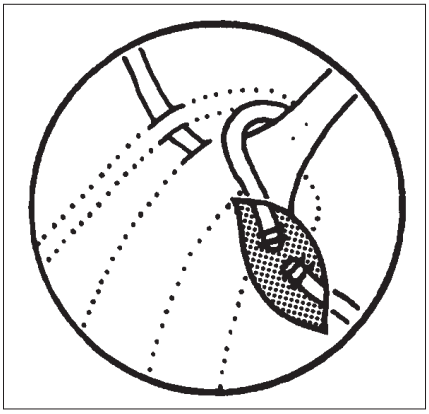

FIG. 3. Vas deferens has been clipped and divided.

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