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Pathologic findings and outcomes of a minimally invasive approach to ovarian remnant syndrome

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Objective: To review outcomes and pathologic findings of a primarily minimally invasive approach to ovarian remnant syndrome.
Design: Data were abstracted from medical records documenting bilateral salpingo-oophorectomy and subsequent treatment between 1996 and 2006 for pathologically confirmed ovarian remnant tissue. Follow-up was by mailed questionnaires and telephone interviews.
Setting: Tertiary care academic medical institution.
Patient(s): Twenty patients (mean age, 48 years) receiving treatment for ovarian remnant tissue after prior bilateral salpingo-oophorectomy.
Intervention(s): Primarily minimally invasive approach (conventional laparoscopy and robot-assisted laparoscopy) for removal of ovarian remnant tissue.
Main Outcome Measure(s): Postoperative complications and recurrence.
Result(s): The 20 patients had a mean follow-up of 30 months. Indications were endometriosis in 8 and ovarian neoplasm in 6. Eighteen patients presented with pain, and 2 presented with a pelvic mass. Nineteen had laparoscopy (14 conventional; 5 robotic), and 1 had laparotomy. Remnant ovarian tissue was associated with endometriosis in 5 and corpus luteum in 3. Two patients had malignancy in remnant ovarian tissue. Postoperative complications included pneumonia (1 case). Follow-up identified no recurrence.
Conclusion(s): Ovarian remnant syndrome can be managed safely and successfully with minimally invasive surgery. Risk of carcinoma mandates surgical resection. (Fertil Steril® 2007;87:1005–9. ©2007 by American Society for Reproductive Medicine.)

Key Words: Laparoscopy, malignancy, minimally invasive surgery, ovarian remnant syndrome, surgery, robot-assisted surgery

Ovarian remnant syndrome is defined as the finding of histologically confirmed ovarian cortical tissue during surgical exploration in a woman who presents with pain or a pelvic mass and who has had a previous bilateral salpingo-oophorectomy. The largest case series published recently involved 186 patients who were all approached by laparotomy (1). Although management of ovarian remnant syndrome with laparoscopy has been described (2, 3), debate about the optimal surgical route remains. The dense adhesions usually encountered with ovarian remnant syndrome have led to the belief that laparotomy is the ideal way to minimize operative complications, dissect the retroperitoneum, and completely excise ovarian remnant tissue (4).

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Our objective was to review surgical outcomes, including pathologic findings, of patients with ovarian remnant syndrome whose condition was managed principally with a minimally invasive approach.

MATERIALS AND METHODS

A computer-generated search of the institutional medical records database identified all patients who had surgical management for ovarian remnant syndrome between January 1996 and January 2006 in the gynecology department of Mayo Clinic, Scottsdale, Arizona. After approval from the Mayo Clinic Institutional Review Board, patient records were reviewed and a follow-up letter was mailed; a follow-up telephone call was made, when necessary. Inclusion criteria included a documented history of prior bilateral salpingo-oophorectomy in the course of one or more gynecologic procedures and pathologic confirmation of residual ovarian tissue during surgical exploration and excision at Mayo Clinic.

The surgical approach followed in this series of patients was initially described by Webb (5) and more recently by

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one of the authors of this study (1). Regardless of the surgical route, the same basic surgical principles were followed: [1] high religation and resection of the gonadal vessels, [2] bilateral stripping and excision of the pelvic sidewall peritoneum, and [3] wide excision of the tissue surrounding the remnant ovary (Figs. 1–3). Since the addition of the da Vinci Surgical System (Intuitive Surgical, Inc., Sunnyvale, CA) to our facility in March 2004, some cases of ovarian remnant syndrome have been approached robotically. Advanced laparoscopic skills were required to accomplish the procedure with conventional laparoscopy or the robotic surgical system. The operative technique began by careful adhesiolysis of remnant tissue often involving the bowel, omentum, bladder, and ureters that was commonly encountered in these patients. The peritoneum was incised at the pelvic brim to identify the ureter, which was mobilized and lateralized through its entire course in the pelvis. The gonadal vessels were then religated at the level of the aortic bifurcation with a vessel-sealing device. The pelvic sidewall peritoneum was stripped and excised to include the tissue surrounding the ovarian remnant.

Follow-up information was obtained from reviewing patient records and responses to questionnaires that were completed and returned. When data were incomplete, the patient was contacted by telephone or letter to try to obtain the missing information. Postoperative complications were defined as any untoward side effects that occurred within 6 weeks after the surgical procedure.

RESULTS

Twenty patients were identified as having ovarian remnant syndrome (Table 1). The mean age for this cohort was 48 years (range, 25–78 years). Of the 20 patients, 11 (55%) underwent prior bilateral salpingo-oophorectomy by laparotomy, 7 (35%) by laparoscopy, and 2 (10%) by the transvaginal approach. The indication for bilateral salpingo-oophorectomy was not available in 4 of 20 patients. In the other 16 patients, the most common indication was endometriosis (8 patients; 50%) or ovarian neoplasm (6 patients; 38%). Other indications included uterine neoplasm (1 patient) and pelvic inflammatory disease (1 patient). The mean number of previous laparotomies and laparoscopies was 2.7 (range, 0–11) and 1.4 (range, 0–4), respectively.

FIGURE 1

Ovarian remnant tissue (*arrow*) densely adherent to pelvic sidewall.

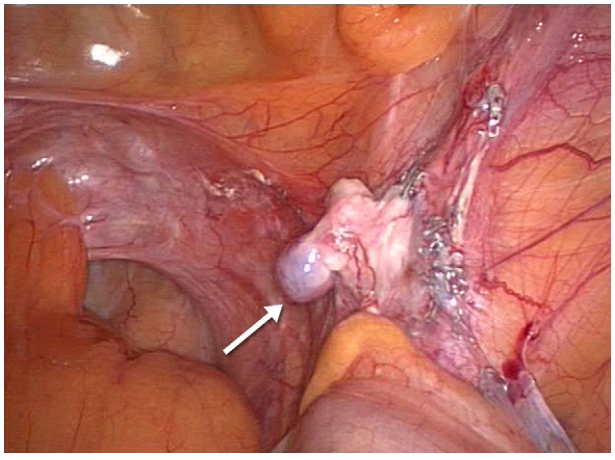

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FIGURE 2

The peritoneum is opened widely at the pelvic brim to allow high religation and resection of the gonadal vessels (*arrow*).

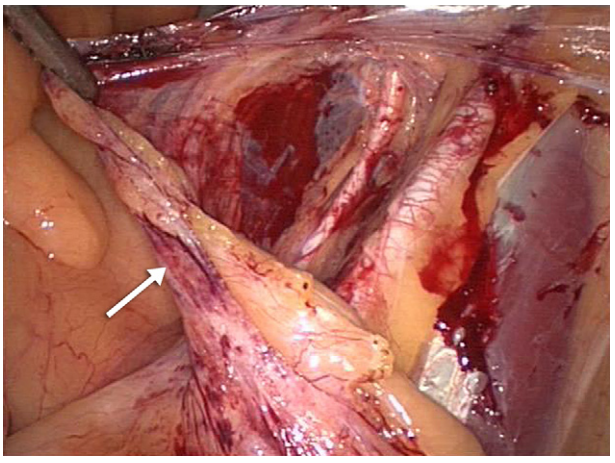

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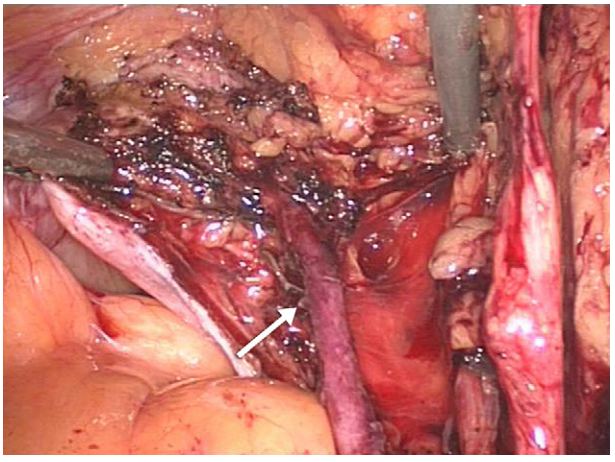
FIGURE 3

The ureter (*arrow*) is completely mobilized to allow stripping of the sidewall peritoneum and wide resection of the tissue surrounding the ovarian remnant.



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