

Operative laparoscopy for the treatment of large ovarian dermoid cyst

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ABSTRACT

Objective: To assess the effectiveness of operative laparoscopy for treatment of large ovarian dermoid cyst.

Materials and Methods: From January 1997 through January 2007, all operative laparoscopy notes at King Abdulaziz University Hospital, Jeddah, Saudi Arabia were reviewed. Inclusion criteria included women with ovarian dermoid cyst (less than 10 cm), were reviewed. Ten women with ovarian dermoid cysts $8 \text{ cm} \pm 2$ (mean \pm SD) underwent ovarian laparoscopic cystectomy by the same surgeon. The age was 27 ± 7 years (mean \pm SD). They all had normal tumor markers (CA 125, CEA, alpha fetoprotein, and beta human chorionic gonadotropin). Eight women were multiparous and two women were nulliparous. The presenting symptoms were pelvi-abdominal pain in six women, secondary infertility in two women, and abnormal vaginal bleeding in two women. Eight women had unilateral dermoid cyst and two women had bilateral dermoid cysts.

Results: Laparoscopic ovarian cystectomy was successfully done in all women. There was no conversion to laparotomy in this series. The mean operative time was 90 ± 15 minutes. Estimated blood loss was 300 ± 50 ml. There were no intraoperative complications. Histology showed benign cystic teratoma. Long term follow up (7 ± 3 years) showed no recurrence of the cyst and five women got pregnant after the procedure (two infertility women, two previous nulliparous women and one multiparous woman).

Conclusion: Laparoscopic ovarian cystectomy is effective for large ovarian dermoid cysts.

Keywords:

Mature cystic teratomas also termed dermoid cysts, are the most common benign ovarian tumors. They account for up to 58% of benign and 44% of all ovarian tumors (1). Most (80%) occur during reproductive years and only 15% after menopause. They are bilateral in up to 15% and they grow slowly. In premenopausal women growth rate of 1.8 cm/year was documented (2). Traditional treatment options include laparoscopy

and laparotomy. Advantages to remove dermoid cysts laparoscopically include small incisions, less post-operative pain, short hospital stay, earlier recovery and improved quality of life in the post-operative period. Laparoscopy is usually done for small cysts because of the technical difficulties to remove large dermoid cysts and fear of peritonitis with rupture. However, there are few reports in the literature of laparoscopy for large ovarian dermoid cysts. The objective of this retrospective study is to assess the effectiveness of operative laparoscopy for treatment of large ovarian dermoid cyst.

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MATERIALS AND METHODS

Between January 1997 and January 2007, all operative laparoscopy notes at King Abdulaziz University Hospital, Jeddah, Saudi Arabia were reviewed. The records of women with large ovarian dermoid cyst were identified and examined. Inclusion criteria included maximal diameter of the cyst was less than 10 cm, tumor markers and radiological picture suggestive of benign disease, and absence of contraindications for operative laparoscopy. Data regarding age, gravidity, clinical presentation, bilaterality, ultrasound and computed tomography findings, operating time, estimated blood loss, presence of intraoperative and postoperative complications, conversion to laparotomy, duration of admission to the hospital, and long term follow up were extracted from the hospital files. All women had mechanical bowel preparation and received preoperative one dose prophylactic antibiotic.

RESULTS

Ten women with ovarian dermoid cysts $8 \text{ cm} \pm 2$ (mean \pm SD) underwent ovarian laparoscopic cystectomy by the same surgeon (Rouzi AA) using the same technique. All women received mechanical bowel preparation. Laparoscopy was done under general anesthesia through sub-umbilical incision. Secondary and tertiary punctures were made through 5 mm incisions in the right and left lower quadrants under direct vision. After detailed visualization of the abdominal cavity, the cyst was aspirated and ovarian cystectomy was done in the usual manner. The specimens was removed via 10 mm trocar placed in the middle supra-pubic area and were sent to the histopathology department. Copious abdominal lavage with warm normal saline was done to ensure that all contents of the cyst were removed. The age was 27 ± 7 years (mean \pm SD). They all had preoperative pelvic ultrasound with or without computed tomography which were suggestive of benign ovarian cysts and normal tumor markers (CA 125, CEA, alpha fetoprotein, and beta human chorionic gonadotropin). Eight

women were multiparous and two women were nulliparous. The presenting symptoms were pelvi-abdominal pain in six women, secondary infertility in two women, and abnormal vaginal bleeding in two women. Eight women had unilateral dermoid cyst and two women had bilateral dermoid cysts. Laparoscopic ovarian cystectomy was successfully done in all women. There was no conversion to laparotomy in this series. The mean operative time was 90 ± 15 minutes. Estimated blood loss was 300 ± 50 ml. There were no intraoperative or postoperative complications. Histology showed benign cystic teratoma. Long term follow up (7 ± 3 years) showed no recurrence of the cyst and five women got pregnant after the procedure (two infertility women, two previous nulliparous women and one multiparous woman).

DISCUSSION

Mature cystic teratoma is the commonest ovarian neoplasm in women in the reproductive years. Ectodermal, endodermal, and mesodermal layers are the origin of its components. Clinically, it is usually asymptomatic or present with some gastrointestinal discomfort. However, acute abdominal pain due to rupture or torsion may happen. Malignant transformation is rare. Age more than 40 years, high tumor markers (CEA, SCC, CA19-9, AFP, and CA125), and size more than 90 mm are important factors in differentiation between benign and malignant cyst (3). Malignant transformation occur in cysts 152 mm in size (4). Laparoscopic removal for large ovarian cysts has been reported before in small case series. Eltabbakh et al, in 2008, published the largest prospective case series done over seven years by the same surgeon involving thirty three women (5). They concluded that laparoscopy was feasible and safe.

With respect to dermoid cysts, the first laparoscopic cystectomy was performed in 1989 (6). Since then laparoscopy is the most frequent surgical approach for the treatment. The risk of chemical peritonitis is minimized by the use of laparoscopic endobag. With large ovarian the risk of intraoperative spillage is increased. However, careful and copious lavage of the peritoneal cavity

has been shown to be effective (7,8). Hessami et al, reported no chemical peritonitis in 12 laparoscopic cyst excisions where spillage occurred in all women (9). Similarly, in our study there was intraoperative spillage during puncturing the cyst in all cases with no chemical peritonitis due to excessive peritoneal washing. In addition, the outcome of our approach to large dermoid cysts is encouraging. Therefore, in properly selected women with large dermoid cysts laparoscopy is a reasonable treatment option. Further studies are needed to confirm our findings.

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