Case Report

DOI: 10.14235/bas.galenos.2017.1697
Bezmialem Science 2018;6(4):323-5

Laparoscopic Approach to Giant Over Cysts and Case Report

Baha ARSLAN, Varlık EROL, Tuğba Han YILMAZ, Hüseyin GÜLAY

Başkent University Zübeyde Hanım Application and Research Center, Department of General Surgery, İzmir, Turkey

ABSTRACT

Tumor behavior plays an important role when abdominal masses approach. Minimally invasive surgery in patients who are thought to be benign is a valuable approach to comfort patients and surgeons. In the light of the literature, we examined a laparoscopic surgical approach in a premenopausal patient who applied to our clinic for swelling in her abdomen and whose mesenteric and over cysts were not completely differentiated.

Keywords: Giant over cyst, laparoscopic approach, mucinous adenoma

Introduction

Laparoscopic surgical approach is preferred in the treatment of malignant and benign intraabdominal diseases due to the advantages of high patient and surgeon comfort, low morbidity, shorter duration of hospital stay, and quick return to work. Cystectomy and adnexectomy decisions of the surgical treatment of ovarian cysts with clear and laparoscopic approaches are discussed in the literature (1-10). In this study, a patient undergoing laparoscopic adnexectomy for giant ovarian cyst was examined with the literature.

Case Report

A 34-year-old premenopausal single woman was referred to our clinic with the pre-diagnoses of mesenteric cyst and omentum cyst after being evaluated in the gynecology and obstetrics clinic due to the development of a swelling in the abdomen for about six months. Computed tomography (CT) revealed a cystic mass without solid component, reaching a width of 30x22 cm in the midline of the abdomen and filling the abdomen completely (Figure 1). In the abdominal magnetic resonance imaging (MRI), a 32x25 cm giant cystic mass in the midline of the abdomen, which caused the right ovary to disappear due to mass compression or which was suspected to be originating from the right ovary, was defined (Figure 2). The initial diagnosis included giant ovarian cyst, cystic mesothelioma, and peritoneal inclusion cyst. The patient's hemogram, biochemistry and serum tumor markers (CA125, CA 15-3, CA19-9,10, and CEA) were in normal levels. The patient was operated with the diagnosis of giant ovarian cyst and peritoneal inclusion cyst (Figure 3). A 11-mm trocar was placed into the abdomen from the supraumbilical region with the open approach and laparoscopic exploration was performed. A cystic mass, which was considered to have originated from the right ovary, was observed. Then, under the direct observation, three 5-mm trocars were placed from approximately 5 cm below

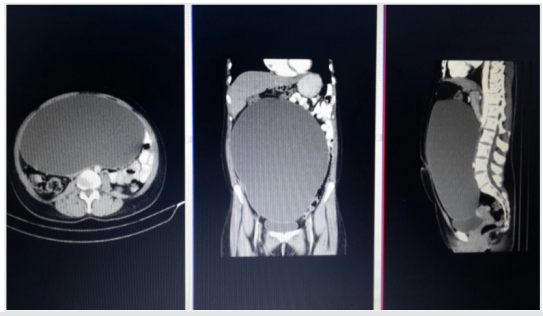

Figure 1: Intraabdominal placement of the cyst on computed tomography (cyst walls marked with an arrow)

Address for Correspondence: Baha ARSLAN, Başkent University Zübeyde Hanım Application and Research Center, Department of General Surgery, İzmir, Turkey
E-mail: drbaha112@gmail.com

Cite this article as: Arslan B, Erol V, Yılmaz TH, Gülay H. Laparoscopic Approach to Giant Over Cysts and Case Report. Bezmialem Science 2018; 6(4):323-5.

Received: 03.01.2017
Accepted: 04.07.2017

the arcus costa in the right midclavicular line, on the line of the umbilicus in the left lower quadrant and left iliac wing in the midline, and between the umbilicus and pubis. With the help of the Verres needle, approximately 6.5 liters of mucinous cystic content was evacuated. Then, the entrance of the verres needle was closed by holding with a grasper. No escape of cystic content into the abdomen occurred. It was observed that the mass originated from right adnexa. The right adnexectomy was performed with the help of Ligasure™ (Covidien-Medtronic). The piece was removed by expanding the 11-mm trocar site 11 mm trocar without using endobag (Figures 4 and 5). Then, intraabdominal

Figure 2 : Suspected relationship with right ovary in magnetic resonance imaging (marked with arrow)

Figure 3. a, b: Surface appearance of the removed adnexa

Table 1 : Postoperative recovery and complications (3)

	Laparoscopy (n=52)	Laparotomy (n=50)	Significance
Pain score			
Postoperative 30th minute	3.7±2.8	5.4±2.7	p<0.01
Postoperative 24th hour	3.1±2.5	4.9±2.5	p=0.001
Oral nutrition (hour)	10,2±9,0	19.2±10.6	p<0.001
Independently getting up from bed (hour)	12.4±11.1	25.2±17.8	p<0.001
Full mobilization (day)	7.8±9.4	13.3±13.3	p=0.02
Starting working at home (day)	11.4±10.8	16.2±11.7	p=0.04
Return to work (day)	17.9±9.8	30.4±19.0	p=0.001

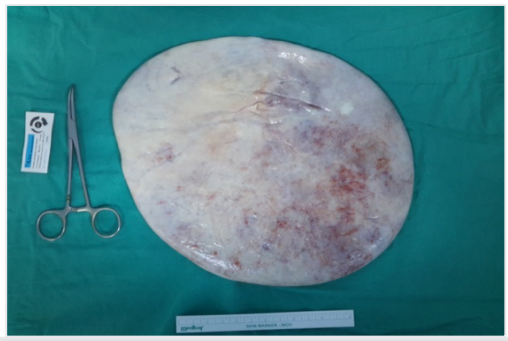

Figure 4: Epithelium lining the ovarian cyst lumen (arrow) (HE X 50)

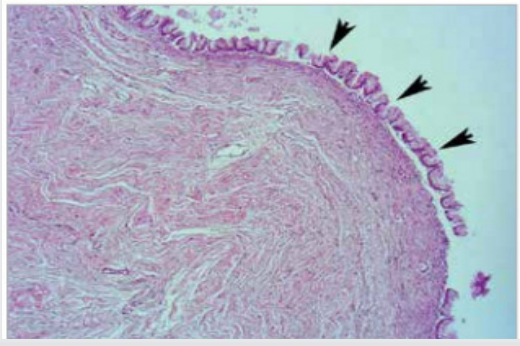

Figure 5:

examination was performed and the left ovary was observed to be in the normal place and in the usual size. The patient was discharged with recovery on the second day after the operation. As a result of the pathological evaluation of the specimen, a mass which was defined as benign mucinous tumor and observed to have a smooth luminal surface and locally thin fibrous bands when opened was revealed. And, it was reported in the cytologic examination of the fluid in the mass that there was abundant amount of proteinosis material and locally intracytoplasmic vacuole cells on the floor. The patient is followed up without any problems in the 7th postoperative month. Informed consent was obtained from the patient who participated in this study.

Discussion

Although laparoscopic surgery is now seen as the gold standard for the treatment of benign ovarian masses (2, 3, 4), it is frowned on by some authors due to the consequences of cyst rupture in boderline and malignant diseases (5, 6). By some authors, laparoscopic surgery is not recommended for masses larger than 10 cm (3, 7). The frequency of ovarian cyst rupture during laparoscopic surgery has been shown to be between 6 and 27% in various studies (3, 7, 9).

Mizrachi et al. (4) found the rate of recurrence in mucinous cystadenomas as 2.6% and they found that the disease recurred on the same side and only in patients undergoing cystectomy in the retrospective study of patients. However, in the same study, intraoperative cyst rupture was reported to be not associated with recurrence in patients both with cystectomy and with adnexectomy. Besides that, in the case of malignancy, the authors have suggested to avoid cyst rupture due to pseudomixoma

peritonei that may occur later with the spread of cyst rupture in the peritoneum (4, 8, 9).

In the cases of detected malignancy, Van Dam et al. (6, 10) recommend the evaluation of patient for cytoreductive surgery and intraperitoneal chemotherapy after safe laparoscopic surgery and the excision of the trocar access sites due to the possibility of trocar entry site metastasis. In cases of intraoperative intraabdominal spread after cyst rupture (e.g. malignancy and dermoid cyst), it is recommended to wash the abdomen with plenty of physiological saline solution with laparotomy or laparoscopy-assisted mini laparotomy (9).

We preferred laparoscopic approach in our patient because the mass inside the abdomen was a pure cystic mass during preoperative evaluation, there was no additional massive pathology in the mass or in the neighbor organs, no acid, no other intraperitoneal formation, and no enlarged lymph nodes, and tumor markers were low. These findings suggest that the mass is quite likely benign. The process could be terminated by preventing the intraabdominal spread in a controlled manner by aspirating the content of a probably benign and ovarian cystic formation. After abdominal exploration of the patient, the cystic mass was observed to be not associated with the mesentery and intestinal organs and the cyst content was aspirated by applying negative pressure outside with the help of verres needle. Since the Verres needle was kept attached to the aspirator before entering the cyst, the leakage of cyst fluid into the peritoneum around the site where the needle entered into the cyst was prevented with the intraabdominal CO_2 insufflation around the cyst with the pressure of 12-15 mm Hg.

Another point that should be questioned in terms of the laparoscopic approach in such large intraabdominal masses is how to enter the abdomen (6). We thought that an camera located in the upper abdomen would facilitate exploration as the surgical intervention would be for the pelvis. In addition, in order to prevent organ damage in a full abdomen, the first trocar was placed on the abdominal wall under direct vision with open approach.

Mais et al. (3) reported in their study that a significant reduction was observed in analgesic requirement after the 2nd day in patients undergoing laparoscopic surgery, it was possible return home on the 3rd day, and patients felt completely healed approximately after 15 days. In a similar study, Yuen et al. compared laparoscopic and open surgical outcomes for benign ovarian pathologies and they found the incidence of total morbidity to be 28% vs 9.6%, respectively. In the same study, while postoperative pain scores of patients undergoing laparoscopic surgery were lower, the times of oral nutrition, mobilization, living independently, and return to work were found to be significantly shorter (Table 1).

Conclusion

After a good preoperative evaluation, giant ovarian cysts can be removed laparoscopically by providing controlled evacuation of the cyst content in pure cystic lesions. In the series presented in the literature, it can be said that oophorectomy should be the first choice particularly in women who have terminated the reproductive age considering that the recurrence rate is significantly higher in those only undergoing cystectomy rather than the rupture of cystic lesions. In the presence of findings suggesting malignancy, laparoscopic approach can be used for staging and tissue diagnosis in addition to preoperative evaluation.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

Author Contributions

Concept - G.H., A.B.; Design - A.B., E.V.; Supervision - G.H., Y.T.; Resources - G.H.; Materials - G.H.; Data Collection and/or Processing - A.B., E.V.; Analysis and/or Interpretation - A.B., Y.T.; Literature Search - A.B., E.V.; Writing Manuscript - A.B.; Critical Review - Y.T., G.H.

Conflict of Interest: The authors have no conflicts of interest to declare.

Financial Disclosure: The authors declared that this study has received no financial support.

References

1. Kurman RJ, Carcangiu ML, Herrington CS, Young RH. Editors, WHO Classification of Tumours of Female Reproductive Organs. In WHO Classification of Tumours. 4. Aufl. Lyon: WHO Press; 2014.
2. Mais V, Ajossa S, Piras B, Marongiu D, Guerriero S, Melis GB. Treatment of nonendometriotic benign adnexal cysts: a randomized comparison of laparoscopy and laparotomy. Obstet Gynecol 1995; 86: 770-4.
3. Yuen PM, Yu KM, Yip SK, Lau WC, Rogers MS, Chang A. A randomized prospective study of laparoscopy and laparotomy in the management of benign ovarian masses. Am J Obstet Gynecol 1997; 177:109-14.
4. Mizrachi Y, Weiner E, Keidar R, Kerner R, Golan A, Sagiv R. Intraoperative rupture of benign mucinous cystadenoma does not increase its recurrence rate. Arch Gynecol Obstet 2015; 291: 1135-9.
5. Vergote I, De Brabanter J, Fyles A, Bertelsen K, Einhorn N, Sevelda P, et al. Prognostic importance of degree of differentiation and cyst rupture in stage I invasive epithelial ovarian carcinoma. Lancet 2001; 357:176-82.
6. van Dam PA, DeCloedt J, Tjalma WA, Buytaert P, Becquart D, Vergote IB. Trocar implantation metastasis after laparoscopy in patients with advanced ovarian cancer: can the risk bereduced? Am J Obstet Gynecol 1999; 181: 536-41
7. Lin P, Falcone T, Tulandi T. Excision of ovarian dermoid cyst by laparoscopy and by laparotomy. Am J Obstet Gynecol 1995; 173: 769-71
8. Hart WR. Mucinous tumors of the ovary: a review. Int J Gynecol Pathol 2005; 24: 4-25
9. Smorgick N, Barel O, Halperin R, Schneider D, Pansky M. Laparoscopic removal of adnexal cysts: is it possible to decrease inadvertent intraoperative rupture rate? Am J Obstet Gynecol 2009; 200: 237.e1-3
10. Hopkins MP, von Gruenigen V, Gaich S. Laparoscopic port site implantation with ovarian cancer. Am J Obstet Gynecol 2000 Mar; 182: 735-6.