Case Report

Laparoscopic Removal of a 40-cm Paratubal Cyst in a Morbidly Obese Patient

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Abstract

Paratubal cysts (PTCs) are remnants of the paramesonephric or the mesonephric ducts that are present during embryogenesis. They are mostly benign; however, malignancy has been described. The incidence of PTCs is estimated to be 5%–20% of all adnexal masses. They can present in any age group but most commonly the third or fourth decades. Huge PTCs exceeding 10–15 cm in diameter are considered rare and challenging, as only a few cases have been reported that describe complete laparoscopic excision. A simple asymptomatic PTC can be managed expectantly; however, surgery is mandatory if the cyst is huge, complicated, or causes severe symptoms. In this article, we describe a laparoscopic removal of a 40-cm PTC in a 32-year-old woman, as the largest PTC in literature that was removed by laparoscopy.

Keywords: Laparoscopy, open-entry technique, paratubal cyst

Introduction

It is relatively common to find paratubal cysts (PTCs) in young women, in which they represent about 4.7%–20% of all adnexal masses.1 They usually take their origin from the mesothelial covering of the peritoneum as well as paramesonephric and mesonephric remnants. Covered by ciliated columnar cells histologically, they are usually of the serous or mucinous subtypes. More often than not, they are benign, fluid-filled sacs that do not adhere to any internal organ.2

However, even with their common prevalence, anomalies in size of the cysts, extending over 15 cm and called “giant cysts,” are quite rare. Their mode of discovery is usually incidental, being found by radiological workup for other causes or to investigate for vague presentations and symptoms. Although there is no well agreed upon management, there is a consensus that large cysts require surgery.1 There are a few previous cases reported in the literature that describe cysts being 30 cm in diameter and managed laparoscopically.3

In this article, a unique case of a giant PTC of 40 cm in diameter in a 32-year-old woman has been presented, managed by complete laparoscopic removal of the giant cyst using an open-entry technique, with preservation of the ovarian tissue.

Case Report

A 32-year-old woman, G2P1 + 1, presented to the gynecologic outpatient department complaining of a gradual increase in her abdominal girth for 2 years. She attributed it to her obesity which led to the delay in presentation. Associated symptoms became more bothersome in the previous few weeks before her presentation to the clinic. They manifested mainly as

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How to cite this article: Atileh LI, Dahbour D, Hammo H, Abdullatif M. Laparoscopic removal of a 40-cm paratubal cyst in a morbidly obese patient. Gynecol Minim Invasive Ther 2020;9:39-41.
pressure symptoms, including feeling of pelvic heaviness, constipation, and early satiety. There was no anorexia or weakness. Physical examination revealed huge abdominal distention. The fat of the abdomen obscured the feeling of any masses. Body mass index at presentation was 43 kg/m².

Ultrasound examination showed a huge fluid-filled cystic lesion occupying the entire abdomen. Computed tomography (CT) scan confirmed the presence of a cystic, nonenhancing, noncalcified lesion of fluid density, measuring about 40 cm in its longitudinal axis, and extending from the pelvis up to the hepatic region [Figure 1a and b]. The findings were suggestive of a benign lesion of an ovarian etiology, mostly a simple ovarian cyst. Serologic oncologic markers including β-human chorionic gonadotropin, cancer antigen (CA)-125, CA 15-3, CA 19-9, carcinoembryonic antigen, and alpha-fetoprotein were normal. These further suggested the benign nature of the cyst. Because of compression to the adjacent organs due to the mass effect and the suggested benign nature of the lesion, the patient was scheduled for laparoscopic surgery.

The procedure was started by a 2-cm longitudinal opening at the base of the umbilicus. The giant cyst was identified, and then, a 6-cm diameter wound protector was inserted and folded several times until its two ends compressed the abdominal wall. Two stay stitches were taken at the cyst wall through the umbilical opening, and a scalpel was used to puncture it. After that, an intracystic suction tube was inserted with the ends of the used threads tied over the suction tube to prevent any spillage. 7500 ml of clear fluid was aspirated until the cyst was completely emptied [Figure 2]. The suction tube was removed, the string was tied again, and the cyst was pushed toward the pelvis. A house-made glove port was used over the wound protector. The scope was inserted, and after identifying a large cyst sparing the right ovary along with the absence of the distal right fallopian tube, a tubal or PTC was suggested [Figure 3]. The decision was made accordingly to excise the cyst with right salpingectomy and preservation of the right ovary. The surgery went smoothly, and the specimen was inserted in a bag and retrieved through the umbilical opening by manual in-bag morcellation. The postoperative course was uneventful, and the patient was discharged 24 h after the surgery. Pathologic examination revealed serous cystadenoma originating from the fallopian tube.

**Discussion**

Giant PTCs are defined as PTCs measuring more than 15 cm in diameter. They can be found mostly in women between the ages of 30 and 40 years. They may start causing symptoms mainly due to compression of other organs, rupture, or torsion. Females are usually asymptomatic, but when symptomatic, they may present with pelvic tenderness, abnormal uterine bleeding, and dyspareunia, mandating management and treatment.

Diagnosis is usually based on ultrasound and it is critical to differentiate these from ovarian cysts. CT can be used, but the risk of radiation exposure must be considered.

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**Figure 1:** (a and b) Computed tomography scan images showing the extent of the cyst from the pelvic region up to the hepatic region filling the whole abdominal cavity

**Figure 2:** The open-entry technique used in the surgery. Arrows show the wound protector, the cyst, the stay stitches, and the suction tube

**Figure 3:** Laparoscopic view showing the paratubal cyst after complete suction of fluid (arrow 1). Notice the obliteration of the fimbrial end of the right fallopian tube (arrow 2)
When needed, magnetic nuclear resonance is used, sparing the ovary from the potential risk of radiation, especially in young females.[6,7]

Treatment options vary depending on many factors, including age, parity, and size of the cyst.

Patients with giant PTCs of >10 cm or symptomatic should be managed surgically.[4,5]

Conventionally, midline laparotomy has been the mainstay surgical approach for the treatment of giant PTCs. Previous reports suggested that giant PTCs must be removed by laparotomy.[5] With the advancements in the field of gynecologic endoscopy, in association with surgeon skills and experience, it is possible to remove giant cysts by laparoscopy safely.[7,8] Our case is the first in the literature to successfully manage a 40-cm giant PTC by laparoscopy.

The rationale behind managing this case laparoscopically is the many advantages of the laparoscopic procedure itself, which include less postoperative pain, smaller incisions, the pleasant cosmetic result, shorter hospital stays, shorter time for recovery, less discomfort, and most importantly, due to magnification of the image, a better view of the operative field, which allows the opportunity to preserve the ovarian tissue.[8,9] In addition, using the glove port (open-entry technique) makes it a feasible and more suitable approach for the management of such giant pathologies.[8]

In conclusion, obesity may delay the presentation and diagnosis of a giant PTC. Laparoscopy is safe and can successfully manage a giant benign adnexal cyst taking the advantage of using open-entry technique.

**Ethical statement**

This study is approved by the Scientific Research Ethics Committee of The Hashemite Kingdom of Jordan Ministry of Health, the approval code MOH REC 1800145 obtained on 2/10/2018.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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