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Laparoscopic Surgery of Bilateral Dermoid Cyst: A Case Report from Nepal

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Authors' contributions

This work was carried out in collaboration between all authors. Author RL designed the study and performed the statistical analysis. Author KKM wrote the protocol, managed the analyses of the study and wrote the first draft of the manuscript. Author SR managed the literature searches. All authors read and approved the final manuscript.

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Case Study

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ABSTRACT

A 27 year old unmarried, sexually active obese woman with irregular menstrual cycle presented with symptoms of acute intermittent lower abdominal cramps for 1 day. On examination, general condition was fair and vitals were stable. On abdominal examination, it was soft and tender in the right iliac fossa. Per speculum examination revealed healthy cervix with minimal discharge. On per vaginal examination, uterus could not be assessed and bilateral fornices were full. Ultrasonography of abdomen and pelvis showed a left ovarian cyst of 12×11 cm with mixed echogenicity, a right ovarian cyst of 11×9 cm and right nephrolithiasis. Uterus was anteverted, normal in size and no free fluid was seen. Bilateral laparoscopic cystectomy was performed in view of suspected benign ovarian disease. Cut-section of the gross specimen showed hair, sebaceous fluid and cheesy material. Histopathology showed bilateral mature teratoma of ovary (dermoid ovarian cyst).

Keywords: Dermoid cyst; Laparoscopic cystectectomy; global health; gynaecology.

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1. INTRODUCTION

Dermoid cyst or mature teratoma of the ovary is the most common benign tumour of ovary in young and middle aged woman [1]. Dermoid cyst constitutes 10–25% of all the neoplasms of ovary. Peak incidence is observed in the age group of 25–45 years [1,2]. It is usually a benign germ cell tumor and is rarely malignant [3]. Bilateral dermoid cyst of ovaries may be seen in 10% of cases. Dermoid cyst is usually unilocular containing hair, sebaceous material with squamous epithelial lining. In some cases, bone, teeth, thyroid tissue, cartilage and the bronchial mucous membrane may also be found. It may be associated with mucinous cystadenoma in upto 40% of cases [4]. Within the inner surface of dermoid cyst, there is an area of solid projection known as Rokitansky's protuberance, and it is covered by skin, sebaceous glands and sometimes by teeth and bones.There are theories which suggest that dermoid cyst develops from genetic material from a single oocyte. The oocytes which are capable of parthenogenesis result from an arrest of development of oocyte after meosis I. So, almost all mature cystic teratomas have a karyotype of 46, XX [5]. Bilateral dermoid cyst in young woman is a difficult condition to manage because a considerable amount of ovarian tissue needs to be preserved for future fertility. Open surgeries (laparotomy) are the common modality of treatment in obstetrics and gynecology in Nepal and very few centers perform laparoscopic surgeries. Hence, we report a case of successful bilateral laparoscopic cystectomy at our center.

2. PRESENTATION OF CASE

History: A 27-year-old sexually active, unmarried woman presented with acute lower abdominal pain for 1 day. There was history of the irregular menstrual cycle and last period was 1 month back. There was no bowel or bladder disturbance, no history of weight loss or decreased appetite. There was no significant past medical and surgical history. Family history was not significant.

2.1 General Physical Examination

Her general condition was good. She was obese, afebrile, not jaundiced, and had no pallor, lymphadenopathy or pedal oedema. Her vitals were stable. Breast and thyroid examination was normal. On abdominal examination: Abdominal obesity present with tenderness in right iliac fossa. No mass was palpated and there was no ascites. Per speculum examination revealed healthy cervix with minimal discharge. On vaginal examination: uterus could not be assessed and bilateral fornices fullness was noticed.

Investigations – All the routine investigations were within normal limits. Renal function test, liver function test, cancer antigen (CA 125, Carcinoembryonic Antigen (CEA) and Chest X-ray were normal. Ultrasonography of abdomen and pelvis showed a left ovarian cyst of 12×11 cm with mixed echogenicity, a right ovarian cyst of 11×9 cm and right nephrolithiasis. Uterus was anteverted, normal in size and no free fluid was seen. Urology consultation for nephrolithiasis was done and no active intervention was advised with a plan to follow up.

Treatment: Bilateral laparoscopic cystectomy was done under general anaesthesia. Intraoperative findings – Left sided twisted dermoid cyst of 12×10 cm, Right sided dermoid cyst of 12×8 cm with another small simple cyst. There was no findings suggestive of compromised vascular supply or necrosis of the ovary. Capsules were intact bilaterally, without adhesions; no free fluid. Bilateral tubes seemed normal. Uterus was anteverted and normal in size. Cut- section: Dermoid cyst contained hair, sebaceous fluid and cheesy material.

Outcome: Postoperative stay of the patient was uneventful. Patient was discharged on the fourth postoperative. Histopathology of cystic wall tissue confirmed the diagnosis of bilateral mature teratoma of the ovary.

3. DISCUSSION

Mature teratoma or dermoid cyst is a common tumour of the ovary and is usually unilateral. Sometime it may be co-exist with parasitic intra-abdominal dermoid cysts [6] or may be localised in some other sites like the omentum, pouch of Douglas [7] or the utero-sacral ligament [8].

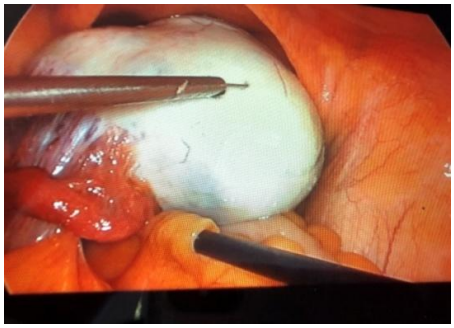

Fig. 1. Intra-op view of dermoid cyst

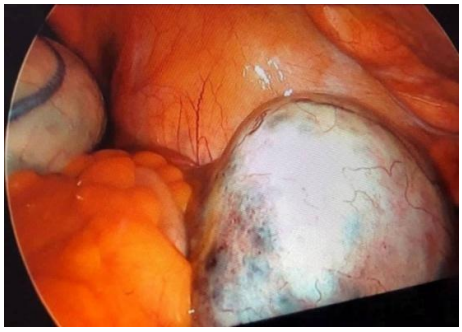

Fig. 2. Twisted dermoid cyst

Diagnosis: Ultrasonography shows "Tip of the iceberg" sign which is due to acoustic shadowing caused by calcifications or fat. There may be hair-fluid or fat-fluid levels with clear demarcation. Presence of hair is a frequently found in mature cystic teratoma [9]. Rokitansky's protuberance is characteristic of dermoid cyst. In our patient, ultrasonography showed bilateral ovarian cysts without above mentioned characteristic findings.

Complicatons: Dermoids may undergo torsion in upto 15% of cases because of long pedicle and heavy weight and it was observed in our case [10]. Spontaneous rupture is rare due to its thick wall. In case of rupture, it may lead to chemical or granulomatous peritonitis. Risk of recurrence is 3–4%.and it rarely becomes malignant (1.7%, squamous cell carcinoma) [11]. Despite torsion of the left dermoid cyst, there was no signs of necrosis of ovary in our patient.

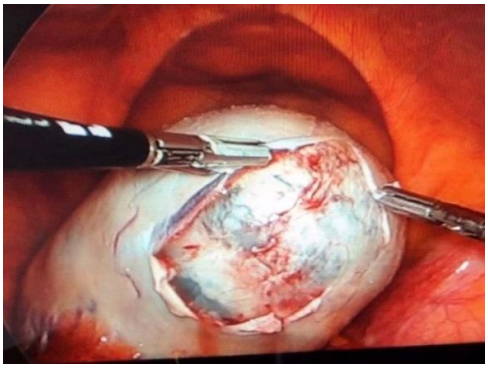

Fig. 3. Dermoid cyst with its contents

Treatment: Most surgeries for benign ovarian disease can be done laparoscopically. Our patient was a young lady with acute abdominal pain without a history of bowel or bladder disturbance, weight loss or decreased appetite and ultrasound suggesting benign ovarian pathology, hence she was operated laparoscopically. Ovarian torsion is one of the common cause for surgery in young women [12]. Shorter recovery time, duration of hospital stay and a lesser chance of adhesion formation are major advantages of laparoscopic surgery compared to laparatomy [13,14]. Randomised clinical trials also show less burden of febrile morbidity and a lesser chance of urinary tract infection, postoperative complications including postoperative pain with laparoscopic cystectomy [15]. A known disadvantage of laparoscopic cystectomy is the risk for spillage cyst content or cells into the peritoneum [16,17]. This may cause peritonitis or spread malignancy if the tumour is malignant. Hence, laparoscopic surgery should be reserved for those patients in whom the chance of malignancy is very low, which was the scenario in our case.

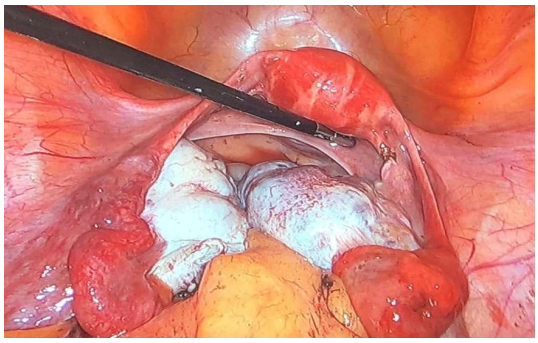

Fig. 4. Post cystectomy

4. CONCLUSION

To summarise, laparoscopic cystectomy is the preferred technique for dermoid cyst because it is associated with a smaller scar, lesser duration of hospital stay, and lower frequency of postoperative complications like adhesion formation pain compared to laparotomy. Conditions in which the open method are when the surgeon is not experienced in using laparoscope, when there are dense adhesions, very large cyst, or when there is a risk of malignancy.

CONSENT

All authors declare that "written informed consent" was obtained from the patient for publication of case report and accompanying images.

ETHICAL APPROVAL

As per international standard or university standard written ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Prat J. Female reproductive system. In: Damjanov I, Linder J, Anderson WAD, editors. Anderson's pathology. 10th ed. St Louis, Mo: Mosby. 1996;2231–2309.
2. Talerman A. Germ cell tumours of the ovary. In: Blaustein's Pathology of the Female Genital Tract, Kurman RJ (Ed), Springer Verlag, New York. 1994;849.
3. Berek JS. Epithelial ovarian cancer. In: Practical Gynecologic Oncology, 4th, Berek JS, Hacker NF (Eds), Lippincott Williams & Wilkins, Philadelphia. 2005; 443.
4. Ueda G, Fujita M, Ogawa H, Sawada M, Inoue M, Tanizawa O. Adenocarcinoma in a benign cystic teratoma of the ovary: Report of a case with a long survival period. Gynecol Oncol. 1993;48(2):259-63.
5. Caspi B, Lerner-Geva L, Dahan M, Chetrit A, Modan B, Hagay Z, Appelman Z. A possible genetic factor in the pathogenesis of ovarian dermoid cysts. Gynecol Obstet Invest. 2003;56(4):203-6.
6. Sinha R, Sunduram M, Lakhotia S. Multiple intraabdominal parasitic cystic teratomas. J Minim Invasive Gynecol. 2009;16:789–791.
7. Tokunaga M, Seta M, Yamada M, Nishio M, Yamamoto K, Koyasu Y. Coexistent dermoid cysts of the pouch of the Douglas and ovary resected by laparoscopy. Asian J Endosc Surg. 2012;5:31–33.
8. Moawad NS, Starks D, Ashby K. Ectopic ovarian teratoma of the uterosacral ligament associated with a large ovarian dermoid. J Minim Invasive Gynecol. 2008; 15:523–524
9. Patel MD, Feldstein VA, Lipson SD, et al. Cystic teratomas of the ovary: Diagnostic value of sonography. AJR Am J Roentgenol. 1998;171:1061.
10. Ahmed M. Abbas, Esraa Gamal, Esraa Talaat, Amera M. Sheha. Torsion of huge dermoid cyst in adolescent girl: A case report. Middle East Fertility Society Journal. 2017;22:3236-239.
11. Ayhan A, Bukulmez O, Genc C, et al. Mature cystic teratomas of the ovary: Case series from one institution over 34 years. Eur J Obstet Gynecol Reprod Biol. 2000; 88:153.
12. McWilliams GD, Hill MJ, Dietrich CS 3rd. Gynecologic emergencies. Surg Clin North Am. 2008;88:265–83.
13. Bisharah M, Tulandi T. Laparoscopic preservation of ovarian function: An underused procedure. Am J Obstet Gynecol. 2003;188:367.
14. Baradwan, et al. Bilateral dermoid ovarian torsion in a young woman: A case reportJournal of Medical Case Reports. 2018;12:159.
15. Medeiros LR, Fachel JM, Garry R, et al. Laparoscopy versus laparotomy for benign ovarian tumours. Cochrane Database Syst Rev. 2005;CD004751.
16. Canis M, Rabischong B, Botchorishvili R, et al. Risk of spread of ovarian cancer after laparoscopic surgery. Curr Opin Obstet Gynecol. 2001;13:9.
17. Leminen A, Lehtovirta P. Spread of ovarian cancer after laparoscopic surgery: Report of eight cases. Gynecol Oncol. 1999; 75:387.

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