



Borderline Serous Ovarian Tumors.

Raheela Naz^{1*}, Srividhya Budithi²

1. Clinical fellow, Wrexham Maelor Hospital.
2. Consultant, Wrexham Maelor Hospital.

Corresponding Author: Dr Raheela Naz, Clinical fellow, Wrexham Maelor Hospital.

Copy Right: © 2022 Dr Raheela Naz, this is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Received Date: November 30, 2022

Published Date: December 05, 2022

DOI: [10.1027/marcr.2022.0284](https://doi.org/10.1027/marcr.2022.0284)

Abstract

Borderline ovarian tumours represent 10 to 20 per cent of all epithelial tumours of the ovary. They are characterized by an atypical epithelial cell proliferation without stromal invasion. We report a case of a postmenopausal woman with a history of recurrent admissions with chronic right Iliac fossa pain for almost one year. Ovarian cysts diagnosed on ultrasound and computerized tomography scan. Laparoscopic bilateral salpingoophorectomy was performed. Histology was confirmed as Bilateral Borderline Serous ovarian tumor. Total laparoscopic hysterectomy and omentectomy was planned. This case highlights the importance of early diagnosis and treatment of Borderline ovarian tumours.

Key Words: *Borderline ovarian tumours, ovarian cysts.*

Abbreviations

Borderline ovarian tumours-BOTs

Computerized tomography (CT) scan –CT scan

Introduction

Borderline ovarian tumours (BOTs) are intermediate lesions between benign cystadenomas and invasive carcinomas. Borderline ovarian tumours embody 10 to 20 per cent of all epithelial tumours of the ovary. They are characterized by an atypical epithelial cell proliferation without stromal invasion. [2]Most of the surface epithelial-stromal tumours occur in women between the fourth and sixth decade [1]

It is important to distinguish BOTs from benign cysts. Patients with a borderline ovarian tumour misdiagnosed as a benign tumour may undergo an inadequate surgical staging that results in subsequent additional interventions and possible tumour spread. [1]

Case Presentation

We report a case of a postmenopausal, 57 years old woman. She was Para 1, who presented with a history of chronic right Iliac fossa pain for almost one year. She previously had 2 laparoscopies, the first one was diagnostic laparoscopy for subfertility and the second laparoscopy was for right ovarian cystectomy. During the laparoscopies, there was evidence of endometriosis and intra-abdominal adhesions. Her pelvic ultrasound showed a Bulky fibroid uterus. The Right ovarian loculated cyst measured 49mm x 34mm x 32mm. The septum measured 2.3mm. The left ovary measured within normal range and no large cysts were identified within the ovary. (See figures a,b-left ovary,c,d,e-right ovary) .

Her Ca125 was 17U/ml and RMI score was 153, suggestive of moderate risk of having ovarian cancer.



Figure a



Figure b



Figure c



Figure d



Figure e, arrow pointing septum

Laparoscopic bilateral salpingo-oophorectomy was discussed, and she was placed on waiting list for surgery to be done within 3 months. Whilst waiting for surgery ultrasound was repeated which didn't show any change in appearance or size of the cysts. Ca125 was repeated which was again normal at 19U/ml. A computerized tomography (CT) scan was performed as there was delay in surgery, which exhibited a 40mm x 30mm sized cystic lesion noted within the right adnexal region. The left adnexa showed a septated cystic area measuring approximately 40mm. There was no evidence of enlarged lymph nodes, ascites or omental disease. The intra-abdominal solid visceral organs showed unremarkable appearances.

Laparoscopic bilateral salpingo-oophorectomy was performed and peritoneal washings were also obtained. Intra operative it was seen that uterus appeared normal in size, and there was a posterior wall (lower) fibroid of 30mm x30mm. Right Ovary was looking suspicious, had irregular surface with a cyst of 30mm; Left Ovary was also looking irregular and solid (See figures f & g for intra operative findings). There was no ascites, upper abdomen and omentum looked normal. No adhesions noted and there was no evidence of endometriosis. Histology was sent as urgent, which showed both ovaries almost entirely replaced by serous cyst adenofibroma with focal epithelial proliferation just more than 10% and therefore amounting to a Borderline Serous ovarian tumor. No invasive malignancy or implants seen. The right fallopian tube was normal but the left fallopian tube had serous inclusions cysts.

Case discussed in Multidisciplinary Team (MDT) histology was confirmed as Bilateral Borderline Serous ovarian tumor, FIGO stage 1C3. The cytology didn't show malignant cells. She was planned for completion surgery, i.e Total laparoscopic hysterectomy and omentectomy.



Figure f



Figure g

Discussion

Most of BOTs are serous tumors (53.3%), followed by mucinous tumors (42.5%) and less common histotypes (4.2%). In ovarian cancers, the serous histotype is also most common, whereas the mucinous histotype is very rare (<10%). BOTs are mostly diagnosed at an earlier stage (75% at FIGO stage I) in comparison to ovarian cancer (25% at FIGO stage I) [3]

Ovarian serous cystadenofibromas with borderline changes are not common. They usually present with abdominal pain and be seen as pelvic masses on ultrasound and CT scan. These tumors can be cystic, solid

or complex with variable amounts of solid areas. Due to their solid component, thickened septa, these masses often raise a suspicion of malignancy on preoperative imaging. [1]. There are types of mucinous tumors encountered in the ovary which include metastatic mucinous carcinomas, most commonly from the gastrointestinal tract (biliary tract, pancreas, colon) or endocervix, and low-grade mucinous tumors of appendiceal origin secondarily involving the ovary in association with the clinical syndrome of pseudomyxoma peritonei. All ovarian tumors associated with pseudomyxoma peritonei characterize metastasis from ruptured primary low-grade (adenomatous) mucinous tumors of the appendix. The rare exception to the gastrointestinal origin of pseudomyxoma peritonei is the occurrence of mucinous tumors arising in ovarian mature cystic teratomas. [3]

Borderline ovarian tumours have a low malignant potential. Stage 1 and 2 Borderline tumours require surgical treatment alone, but stage 3&4 may require adjuvant chemotherapy following surgery.

References

1. Rana F, Mishra M, Saha K, Narayan R. Borderline serous ovarian neoplasm: case report of a diagnostic challenge in intraoperative frozen sections. *Case Rep Womens Health*. 2020 May 16;27:e00219. doi: 10.1016/j.crwh.2020.e00219. PMID: 32461918; PMCID: PMC7242860.
2. Carbonnel M, Layoun L, Poulain M, Tourne M, Murtada R, Grynberg M, Feki A, Ayoubi JM. Serous Borderline Ovarian Tumor Diagnosis, Management and Fertility Preservation in Young Women. *Journal of Clinical Medicine*. 2021; 10(18):4233. <https://doi.org/10.3390/jcm10184233>
3. Fischerova D, Zikan M, Dunder P, Cibula D. Diagnosis, treatment, and follow-up of borderline ovarian tumors. *Oncologist*. 2012;17(12):1515-33. doi: 10.1634/theoncologist.2012-0139. Epub 2012 Sep 28. PMID: 23024155; PMCID: PMC3528384.