Serous borderline tumour of female genital tract

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Background

- Serous borderline tumours are defined histologically by atypical epithelial proliferation without stromal invasion. They represent a heterogenous group of non-invasive tumour of uncertain malignant potential.
- Borderline tumours account for 15 percent of all epithelial ovarian neoplasms, have a favourable prognosis but can lead to symptomatic recurrence and death from complications of therapy, small bowel obstruction or invasive malignancy[1].

Aims

- To improve knowledge regarding management and follow-up of serous borderline tumour.

Case

- A 36yo woman presented to the emergency department with 3 days of right iliac fossa pain and new vaginal spotting. bHCG was 13672 IU/L and US pelvis indicated a 4x2cm right adnexal mass, a bicornuate uterus, nil intrauterine pregnancy and nil free fluid. Laparoscopic right salpingectomy was performed.
- Histology confirmed a right tubal ectopic pregnancy with no features of gestational trophoblastic disease. Atypical cysts containing micropapillary projections were present on the tubal surface favoured to represent non-invasive epithelial implants of serous borderline tumour however a primary peritoneal lesion of borderline serous type could not be excluded. A referral to gynaecological oncology was placed and CT chest/abdomen/pelvis performed which showed no evidence of any-intraabdominal or pelvic pathology.
- Laparoscopic R) oophorectomy, R) pelvic sidewall peritonectomy, omental biopsy, peritoneal washings & uterine curettage was performed. She was discharged day 0 post-operatively with a plan for MDT follow-up.

Results

- Histology of right ovary and uterine curettings were unremarkable. The omentum showed extensive salpingiosis and otherwise was within normal limits. Peritoneal washings showed low grade neoplasm consistent with serous borderline tumour. MDT follow-up diagnosed stage IIA serous borderline ovarian tumour. Follow-up ultrasound pelvis and CA125 are planned 6 months post-operatively for surveillance.

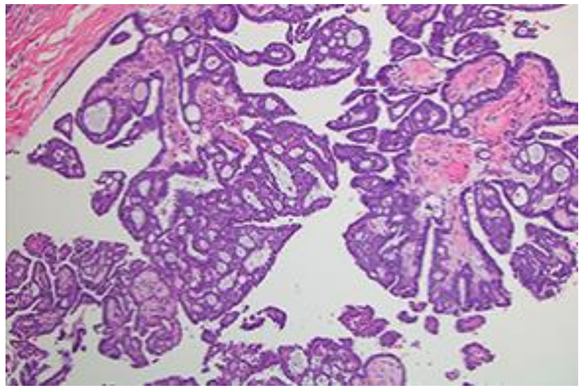

Figure 1. Serous borderline neoplasm with an epithelial proliferation of low-grade cells with serous morphology[8].

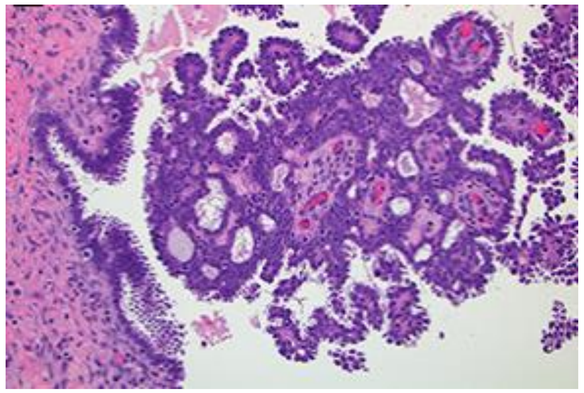

Figure 2. Serous borderline neoplasm with proliferative epithelium and low-grade nuclei lining papillae[8].

Discussion

- Borderline tumours generally have a good prognosis with a 10-year survival of 95%[2]. The risk of malignant transformation is unclear, with one study showing approximately 2% of borderline ovarian tumours progressing to invasive malignancy[3]. Such invasive malignancy may represent true transformation, de novo development of an ovarian cancer, or a peritoneal cancer.
- Fertility sparing surgery is performed for those in whom future pregnancy is desired. Complete staging procedure for patients not desiring future pregnancy may include total hysterectomy and bilateral salpingo-oophorectomy, peritoneal washings, omentectomy and resection of grossly visible metastases however there is no evidence that this improves prognosis[4]. Administration of adjuvant chemotherapy has not clearly demonstrated a survival benefit.
- Depending on stage, risk of recurrence of borderline ovarian tumours is between 5 to 8 percent[5,6]. A retrospective series of 193 patients with borderline ovarian tumours where patients underwent unilateral salpingo-oophorectomy, 7% of patients had recurrence with 20% of recurrences being malignant disease[7]. For borderline ovarian tumours, 30% of recurrence occurs after ten years. This risk does not decline over time and so indefinite follow-up is recommended[4].
- For patients who have undertaken fertility preserving surgery, reasonable follow-up surveillance includes ultrasound, CA125, and clinical assessment with abdominopelvic examination annually indefinitely, with this being performed 6-monthly for the first 12 months. For patients with extra-ovarian disease, regardless of completion vs fertility sparing surgery, similar follow-up is performed except with 6-monthly reviews for the first 3 years before changing to annual review[4].

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References

1. Skírnisdóttir I, Garmo H, Wilander E, Holmberg L. Borderline ovarian tumors in Sweden 1960-2005:trends in incidence and age at diagnosis compared to ovarian cancer. Int J Cancer.2008;123(8):1897
2. Berek J, Kehoe S, Kumar L, Friedlander M. Cancer of the ovary, fallopian tube, and peritoneum. Int J Gynaecol Obstet. 2021;155(1):61-85
3. Zanetta G, Rota S, Chiari S, Bonazzi C, Bratina G, Mangioni C. Behavior of borderline tumors with particular interest to persistence, recurrence, and progression to invasive carcinoma: a prospective study. J Clin Oncol. 2001;19(10):2658
4. Cabraal N, Perrin L, Chetty N, Jagasia N, Jennings B. Guideline for the Surveillance of Gynaecological Malignancies [Internet]. 2021 [cited 2024 May 2]. Available from: https://www.materonline.org.au/MaterOnline/media/materonline/Publications/Guideline-for-the-Surveillance-of-Gynaecological-Malignancies.pdf
5. Ureyen I, et al. The factors predicting recurrence in patients with serous borderline ovarian tumor. Int J Gynecol Cancer. 2016;26(1):66-72
6. du Bois A, et al. Borderline tumours of the ovary: A cohort study of the Arbeitsgmeinschaft Gynäkologische Onkologie (AGO) Study Group. Eur J Cancer. 2013;49(8):1905-14
7. Suh-Burgmann E. Long-term outcomes following conservative surgery for borderline tumor of the ovary: a large population-based study. Gynecol Oncol. 2006;103(3):841
8. Rendi M. Serous borderline neoplasm. In UpToDate; 2024. [cited 2024 May 22]. Available from: https://www-uptodate-com.ddhhsproxy.slq.qld.gov.au/contents/epithelial-carcinoma-of-the-ovary- fallopian-tube-and-peritoneumhistopathology?search=histology%20serous%20borderline%20tumour%20ovary&source=search_result&selectedTitle=2%7E150&usage_ type=default&display_rank=2#H1295683728.