

# Ovarian Ectopic Pregnancy: The Uncommon Intraoperative Differential Diagnosis

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## Background

Ectopic pregnancy (EP) is a life-threatening emergency in gynaecology. Ovarian EPs are rare, comprising 3% of EPs and affecting approximately 1:2000-1:60,000 pregnancies overall (1, 2). This case aims to examine the intraoperative diagnosis of ovarian ectopic pregnancy and management options in a regional setting.

### The Case

A 23-year-old G1P0 woman at 8+5 weeks presented to a large regional hospital with vaginal bleeding and abdominal pain.

She was not aware she was pregnant prior to presentation and had not decided on whether she wanted to continue the pregnancy. She used condoms for contraception, her STI screen was negative and she had no significant medical, surgical or social history. Her observations were normal on presentation with a HR of 98 and BP 110/70. She was very tender on abdominal examination without peritonism.

Ultrasound did not show an intrauterine gestational sac and revealed a significant haemoperitoneum, predominantly in the right adnexa, leading to urgent operative management. Her BhCG was 3270 and Hb was 118.

Intra-operatively, the cause of active bleeding was noted to be a right ovarian cystic lesion instead of a ruptured tubal EP. This was initially suspected to be a haemorrhagic corpus luteum. The ovarian lesion was resected, sutures, diathermy and Arista™ to achieve haemostasis and sent for histopathology. Her intraoperative blood loss was 400ml.

Histopathology showed the ovarian lesion was an ovarian EP. Her BhCG levels were tracked and became negative 17 days post operatively. Her case was complicated by post-operative fever with comorbid COVID-19.

## Discussion

This case highlights the complexities of intra-operative diagnosis of the underlying cause of haemoperitoneum in early pregnancy and the limitations of pre-operative diagnosis.

The main differential diagnosis of ovarian EP, haemorrhagic corpus luteal cysts, have a similar presentation and intra-operative appearance.

The classic risk factors for tubal EP are less associated with ovarian EP, with the main risk factors being IUD use, assisted reproductive technology and pelvic scarring (eg. endometriosis, adhesions, previous surgery), none of which applied in this case.

There are no specific ultrasound criteria for ovarian EP and the diagnosis is usually made intra-operatively.

## Conclusion

This case highlights the complexities of intra-operative diagnosis of the underlying cause of haemoperitoneum in early pregnancy.

As there are no specific diagnostic criteria for either ovarian EP nor haemorrhagic corpus luteal cysts and definitive diagnosis can only be made on histopathology, a high index of suspicion is needed for this presentation and implications for management.

The operative treatment techniques for removal of the ovarian EP include ovarian cystectomy +/- wedge resection and haemostatic agent use to achieve haemostasis. Given the risk of haemorrhagic corpus luteal cyst, it is important not to instrument the uterus during the procedure.

The only way to definitively diagnose ovarian ectopic pregnancy is via histopathology.

The challenges of this presentation in a regional setting are resources including access to gynaecological surgery, availability of blood and timeliness of retrieval services if the above resources are not available. While our hospital is lucky to have access to these resources, other hospitals in our network do not.

## Figures



Figure 1. Intraoperative photo from 10mm laparoscope. R) ovarian ectopic pregnancy clearly seen.

## References

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2. Snyman LC, Makulana T, Makin JD. A randomised trial comparing laparoscopy with laparotomy in the management of women with ruptured ectopic pregnancy. *SAMJ: South African Medical Journal*. 2017;107 (3):258-63.