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Case Report

# Ovarian Pregnancy: Three Cases

**Authors:**
**Lounas BENGHANEM⁎, Bouzid ADDAD, Lydia FAÏD, Mounir BISKER, Kamel HAïL**
*Head of the Gynecology and Obstetrics Department, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.*
*Professor in Obstetrician Gynecologist Gynecology and Obstetrics Department, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.*
*Obstetrician Gynecologist Gynecology and Obstetrics Department, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.*
*Obstetrician Gynecologist Gynecology and Obstetrics Department, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.*
*Professor in General Surgery, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.*
⁎**Corresponding Author**:
Lounas Benghanem
Professor, Head of the Gynecology and Obstetrics Department, Mustapha University Hospital Center, Faculty of Algiers I. Algeria.

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**ABSTRACT**:
Ovarian pregnancy is an exceptional form of ectopic pregnancy. It most often occurs on the right ovary. It is a particular pathology in terms of clinical presentation, diagnosis (often intra-operatively) and therapeutic management. We report three cases of ovarian ectopic pregnancy managed by laparoscopy.

***Key words: Ectopic pregnancy, ovary, laparoscopy.***

## INTRODUCTION:

Ectopic pregnancy is a frequent medical and surgical emergency in gynaecology. Pregnancy most often occurs in the fallopian tube (94% of cases) [1]. Ovarian localisation comes second, but remains exceptional and accounts for only 3% of ectopic pregnancies [2]. Clinical signs are not very specific for ovarian location, and ultrasound diagnosis is not easy, which means that ectopic pregnancies are often discovered intraoperatively [3]. We report three observations of ovarian pregnancies managed laparoscopically in our department.

## Patients and Observations:

### First observation:

- A 28-year-old patient with no notable pathological history G3P2 presented with acute pelvic pain with minimal metrorrhagia and amenorrhoea of 7 weeks. On examination, the patient was in good general condition, with tenderness in the right iliac fossa and filling of the right cul de sac of Douglas. Ultrasound showed an empty uterus with an image of a heterogeneous latero-uterine cavity measuring 53 mm, juxtaposed to the right ovary, with no intraperitoneal effusion. The beta-HCG level was 7267 IU/l.
- The patient underwent laparoscopic surgery the following morning. Intraoperatively, both fallopian tubes were healthy, but a hypervascularised tumour ovary (Figure 1) was discovered, and we performed a partial oophorectomy with thermofusion (Figure 2). The surgical specimen was extracted in an endobag.
- The beta-HCG level fell by more than 50% 48 hours after the operation and pathological examination confirmed an ectopic ovarian pregnancy.

### Second Observation:

- A 26-year-old G2P1 diabetic patient with a history of appendectomy, who presented urgently with an acute non-febrile pelvic pain syndrome and amenorrhoea of 8 weeks.
- Clinical examination revealed tenderness in the right iliac fossa, ultrasound showed moderate haemoperitoneum and an empty uterus. Beta-HCG was 3420 IU/L.
- Emergency laparoscopy revealed moderate haemoperitoneum and healthy fallopian tubes, but on the right ovary adherent trophoblastic material and an ovary bleeding on contact (figure 3).

- We resected the trophoblast stuck to the ovary and performed haemostasis with bipolar forceps (figure 4).

**Third Observation**:

- A 29 year old G4P3 asthmatic patient admitted as an emergency for acute pelvic pain with mucocutaneous pallor and lipothymia, who presented as an emergency for a painful syndrome, ultrasound pauses the diagnosis of a haemoperitoneum of moderate abundance consecutive to a haemorrhagic cyst, the Bea-HCG level carried out as an emergency rectified the diagnosis (4867UI/L).
- Emergency laparoscopy after aspiration of the haemoperitoneum found a right ovary to be the source of the haemorrhage (Figure 5). Haemostasis was performed with bipolar forceps, respecting the ovarian parenchyma (Figure 6).

**DISCUSSION**:

- Ovarian pregnancy is the most common form of rare ectopic pregnancy. It was first described by Mercureus in 1614 [4].
- The risk factors for ovarian pregnancy are no different from those for tubal pregnancy, and are often young multiparous women wearing intrauterine devices [5]. The association of ovarian pregnancy with an intrauterine device has been found in 57-90% of cases in some series [6].
- Four anatomopathological criteria were described by Spielberg in 1878 [4] for diagnosing ovarian pregnancy:
- The tube on the affected side must be healthy.
- The ovarian sac must occupy the usual anatomical position of the ovary.
- The ovary and gestational sac must be connected to the uterus by the utero-ovarian ligament.
- Ovarian tissue must exist within the ovarian sac.
- The aim of these criteria is to eliminate pregnancies grafted secondarily to the ovary.
- Sergent et al [7] propose combining the 4 Spielberg criteria with :
- The existence of an EP confirmed by a plasma beta-HCG level greater than 1000 IU/L
- Ovarian involvement confirmed intraoperatively, with the presence of an atypical ovarian formation or visualisation of a trophoblast in the ovary.
- Both fallopian tubes are healthy.
- Decrease and negativation of beta-HCG levels after treatment of the ovary.
- From a pathophysiological point of view, several theories have been described to explain the occurrence of ovarian pregnancy. There are several opposing hypotheses, but the mechanism appears to be transtubal reflux of the fertilised oocyte into the ovary [8].
- The theory of intra-follicular fertilisation of the unexpelled oocyte This theory is refuted because the oocyte undergoes maturation outside the follicle.
- The theory of extra-follicular fertilisation with implantation on the scar of the follicular ostium, rarely implantation will take place further away from the corpus luteum, or even on the contralateral ovary.
- The theory of an ovarian graft from a tubo-abdominal abortion.
- As in our three observations (all three pregnancies were localised to the right ovary) Spiegelberg [10] reports a more frequent occurrence on the right ovary.
- The gold standard treatment for ovarian pregnancy is surgery, ideally conservative laparoscopy [9] as performed in our three patients.
- Medical treatment is rarely described in the literature [11]. This is probably due to the fact that the diagnosis is often made late, which excludes the use of methotrexate.
- Ovarian pregnancy does not compromise patients' subsequent fertility, and recurrence is exceptional due to the absence of tubal damage (this is an accidental ectopic pregnancy). This is not a risk factor for recurrence, but an accidental ectopic pregnancy.

**CONCLUSION**:

Ovarian pregnancy is an extra uterine pregnancy of exceptional location, its diagnosis is difficult often it is an operative surprise during a surgical operation. Its therapeutic management tends to be conservative surgery, ideally by laparoscopy.

**Conflicts of Interest:**

The authors declare no conflicts of interest.

**Authors' contributions:**

- Lounas BENGHANEM: data collection, bibliographic research and writing of the article.
- Bouzid ADDAD : proofreading and supervision of the writing of the article.
- Lydia FAÏD: proofreading and supervision of the writing of the article.
- Mounir BISKER: proofreading and supervision of the writing of the article.
- Kamel HAÏL: proofreading and supervision of the writing of the article.

**Figures:**

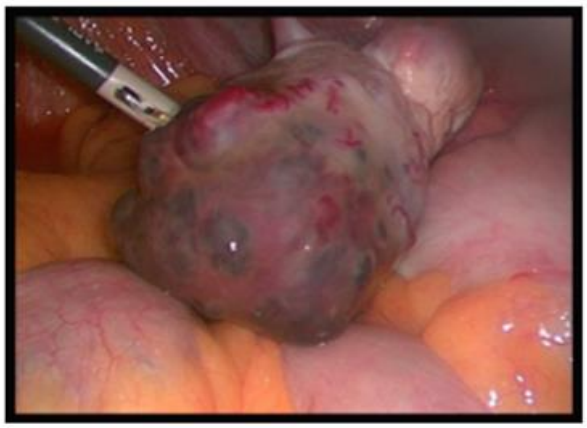

Figure 1 : Hypervascularised right ovarian tumour mass

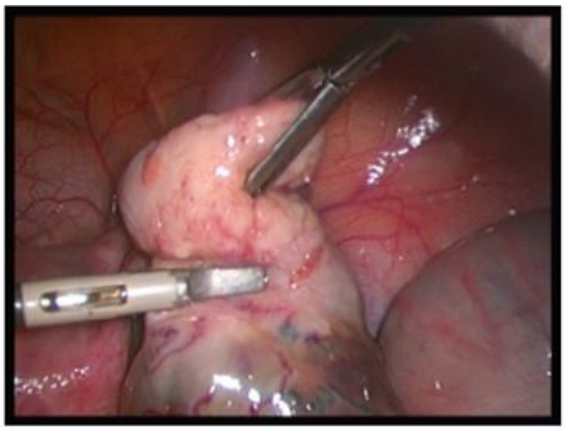

Figure 2 : Partial oophorectomy by thermofusion

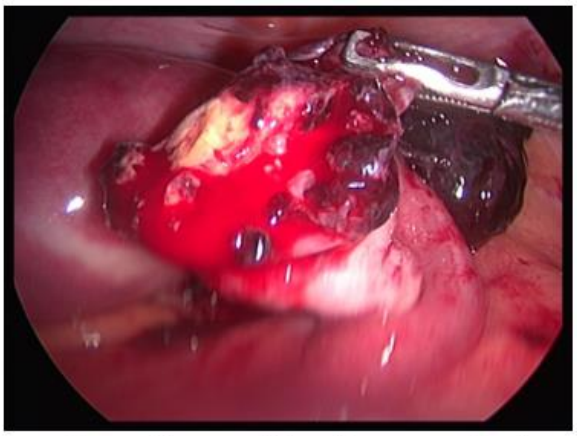

Figure 3 : ovary bleeding on contact

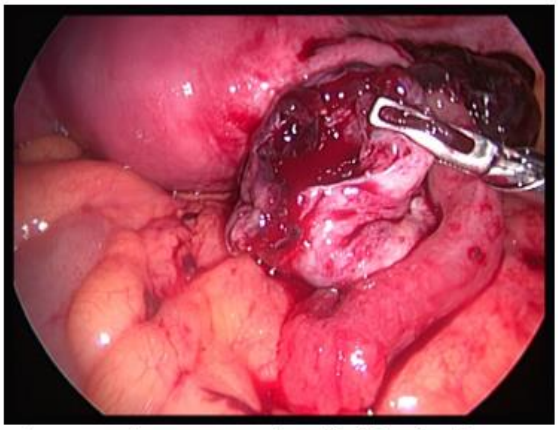

Figure 4 : haemostasis with bipolar forceps

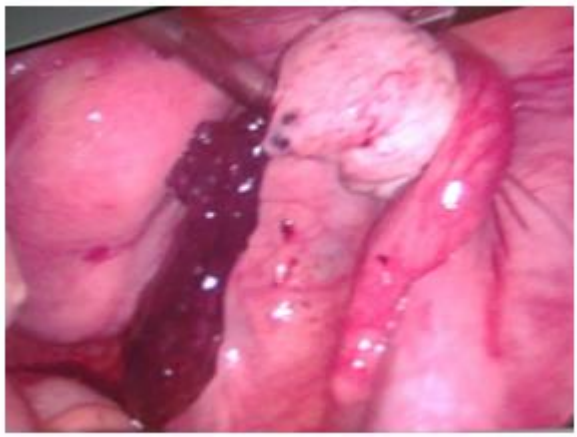

Figure 5 : right ovary source of bleeding

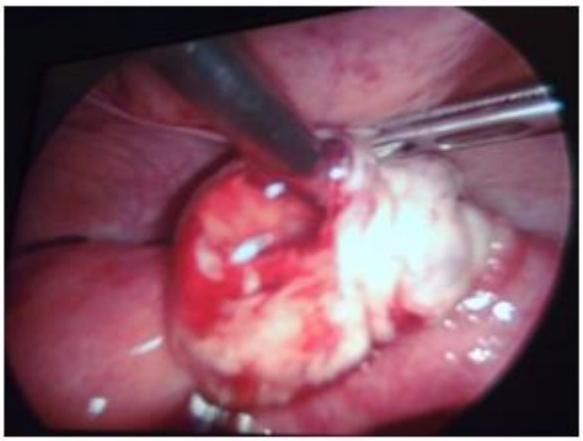

Figure 6 : bipolar haemostasis, respecting the ovarian parenchyma

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