

# A rare case of ectopic pregnancy – retroperitoneal ectopic pregnancy

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Submitted: 2018-05-23 Accepted: 2018-08-02 Published online: 2018-09-15

Key words: **ectopic pregnancy; retroperitoneal ectopic pregnancy; case report**

Neuroendocrinol Lett 2018; **39**(3):156–158 PMID: 30431737 NEL390318C02 © 2018 Neuroendocrinology Letters • [www.nel.edu](http://www.nel.edu)

## Abstract

Ectopic pregnancy is a condition when fertilized egg implants outside the uterine cavity. The reported incidence is about 0.5–1% of all pregnancies. Retroperitoneal ectopic pregnancies (REP) are extremely rare and early diagnosis and treatment is very difficult. For the adequate management and elimination of risks of maternal morbidity and even mortality, timely diagnosis is of a key importance. A 38-year-old woman was referred to our department for RCUI due to missed abortion/anembryonic pregnancy. Re-RCUI was later indicated due to suspicion of residua post RCUI. Histological examination didn't confirm intrauterine pregnancy,  $\beta$ -hCG blood levels were flat. Further ultrasonographic examination identified retroperitoneal ectopic pregnancy, most likely in the precaval lymph node. The surgical and subsequently histological examination confirmed this diagnosis. Our case describes successful management of rare retroperitoneal ectopic pregnancy. When common sites of ectopic pregnancy do not have any positive finding, then the presence of REP should be taken into consideration.

## INTRODUCTION

Ectopic pregnancy is a complication of pregnancy in which fertilized egg implants outside the uterine cavity. The reported incidence is about 0.5–1% of all pregnancies. The most frequent locations are Fallopian tube (97%), uterus in the sense of cornual and cervical pregnancy (2%), ovary (0.5%), abdominal cavity (0.3%) and other locations (0.2%). Retroperitoneal ectopic pregnancy (REP) is an extremely rare type of ectopic pregnancy with a total of less than 25 cases reported in the English literature. Failure to recognize REP may result in severe consequences (Yang *et al.* 2017).

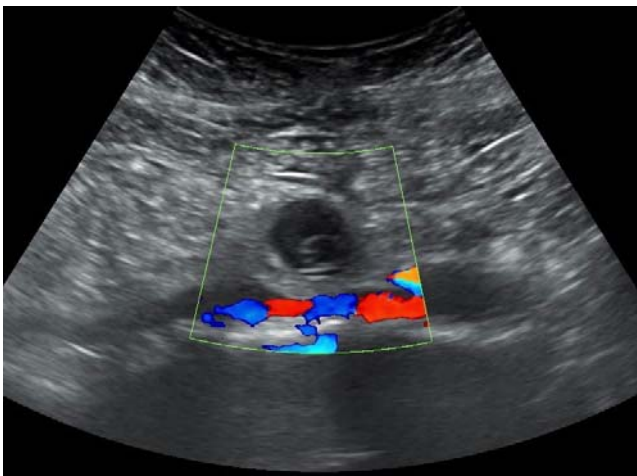
## CASE REPORT

A 38-year-old woman in the 7<sup>th</sup> week of gestation after spontaneous conception was referred to our department for RCUI with a diagnosis of missed abortion/anembryonic pregnancy. She had no risk factor. Her anamnesis was without any abdominal surgery or PID (Pelvic Inflammatory Disease), twice spontaneous delivery, one interruption. Ultrasound diagnosis confirmed intrauterine empty gestational sac and RCUI was carried out.

Since the histological examination did not demonstrate any presence of chorionic villi or trophoblastic cells, the patient was invited for another

ultrasound and  $\beta$ -hCG blood level examination, which was 33 742 mIU/ml. Re-RCUI was indicated due to suspicion of residua post RCUI.

Because of ambiguous ultrasonographic finding and high  $\beta$ -hCG level further examination by advanced sonographer of our department was performed. While vaginal ultrasound didn't identify any signs of intrauterine or ectopic pregnancy, with abdominal approach a 27 mm gestational sac with yolk sac and 13mm embryo without any heart pulsation above the vena cava inferior was identified (corresponding to 7w 4d). The formation was tightly adjacent to large vessels, but without manifestations of any invasion into their walls. The conclusion was suspicion of retroperitoneal ectopic pregnancy, most likely in the precaval lymph node.



**Fig. 1.** Colour Doppler ultrasonography image revealing precaval location of retroperitoneal ectopic pregnancy.

Given the calculated gestational age of the pregnancy and its location, the patient was indicated for a surgical revision. The chemotherapy, used in certain similar examples described, was not considered as suitable here.

After a laparoscopic confirmation of the retroperitoneal location of the ectopic pregnancy, an extirpation of REP, which was tightly adjacent to large vessels, was performed via laparotomy.

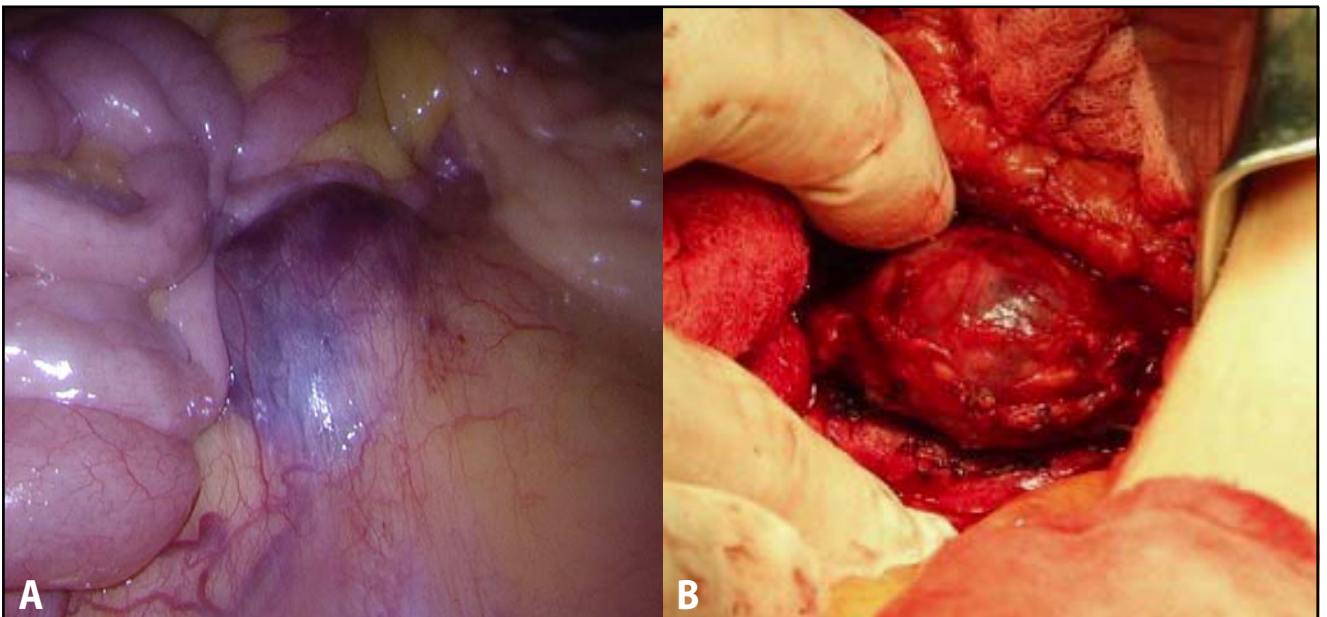
The surgery, as well as the postoperative period, was not associated with any complications and the patient was discharged from hospital on the 9<sup>th</sup> day after the surgery.

The final histological examination confirmed structures of the placenta and autolysed embryonal tissues with moderately edematous chorionic villi without any atypical findings. In short segments on the periphery a lymph tissue was detected, which was very likely to come from the lymph node. Molecular biology examination didn't demonstrate any mola hydatidosa signs. The negativity of  $\beta$ -hCG in blood was reached on the 12<sup>th</sup> day after the surgery.

## DISCUSSION

Retroperitoneal ectopic pregnancy (REP) is an extremely rare type of ectopic pregnancy with a total of less than 25 cases reported in the English literature. The diagnostics is very difficult (Jiang *et al.* 2014). However, failure to recognize REP may result in severe consequences including the life endangering risk of haemorrhage from large vessels (Liang *et al.* 2014).

The first important step of the differential diagnostics is patient's medical history with identifying risk factors enhancing the suspicion of the ectopic preg-



**Fig. 2.** Perioperative images: (A) laparoscopy, (B) laparotomy.

nancy occurrence. The most important risk factors are as follows: pelvic inflammatory disease (PID), endometriosis, sexually transmitted infections (STI), prior abdominal surgery, prior tubal surgery and history of infertility, use of assisted reproductive technology, and previous ectopic pregnancy (Zygula *et al.* 2016).

Most ectopic pregnancies occur in the Fallopian tube (tubal pregnancies – 97%); other possible locations can include the cervix, residual uterine horn, ovary and abdomen (Ouassour *et al.* 2017).

It is also desirable to mention a very rare possibility of heterotopic pregnancy, in which both extrauterine (ectopic) and intrauterine pregnancy occur simultaneously. The incidence in general population is estimated at 1:25.000 to 1:30.000 of pregnancies. The incidence considerably increases in patients with assisted reproduction (Hanáček *et al.* 2007).

A further diagnostic procedure in the detection of ectopic pregnancy is based on clinical symptoms, ultrasound and biochemical examination of blood levels of  $\beta$ -hCG (beta subunit of the human chorionic gonadotropin), which is often necessary to repeat, if the diagnosis is uncertain. But the final diagnosis is usually done by laparoscopy.

Most cases of ectopic pregnancy can be solved by the laparoscopy, laparotomic approach is very rare in this indication. The therapeutic target is the elimination of ectopic pregnancy. An alternative possibility under strictly defined situations is the use of chemotherapy with the administration of Methotrexate (Iwama *et al.* 2008, Okorie 2010). In the postoperative period, in addition to the patient clinical condition, it is also necessary to pay close attention to histological examination results.

A special care is necessary in women after carrying out the RCUI, in which no intrauterine pregnancy was confirmed. In association with this it is necessary to repeatedly evaluate circumstances leading to RCUI indication, to evaluate the patient clinical condition, monitor blood levels of  $\beta$ -hCG and perform vaginal and abdominal ultrasound examinations. This is the only possible approach to detect rare cases of ectopic pregnancies, which may not be considered in the first line due to most diverse reasons (Persson *et al.* 2010, Protopapas *et al.* 2014). This was just the case of presented case report.

## CONCLUSION

The case of 38-year-old woman was presented. Based on a negative result of the histological examination after the RCUI for suspect missed abortion associated with a stagnation of  $\beta$ -hCG blood levels, the diagnosis of retroperitoneal ectopic pregnancy (REP) was done and the situation was successfully solved by surgery. The authors demonstrated that in case of atypical course of management of unsuccessful pregnancy outcome or ectopic pregnancy, REP should be also taken into consideration.

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