



Ruptured tubal pregnancy with very low β hCG levels: a case report

Çok düşük β -hCG düzeylerinde rüptüre tubal gebelik: olgu sunumu

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Abstract

Ectopic pregnancy is a pregnancy that occurs outside the uterine cavity. Although tubal ectopic pregnancy is more common, it can be rarely seen in abdominal cavity, ovary and cervix. Mortality caused by rupture of the ectopic pregnancy decreased dramatically with the introduction of sonography and measurement of serum β -hCG (beta-human chorionic gonadotropin) levels. However there is no correlation between the clinical findings and β -hCG levels. A 29-year-old nullipar woman with amenorrhea had a β -hCG level of 1051 mIU/mL and ultrasonographic findings were pointing to tubal pregnancy. Because of the patient's stable clinical condition, it was decided to follow the patient with expectant management. When she was admitted with severe abdominal pain, the β -hCG level was 39,8 mIU/ml and ultrasonography showed a large amount of fluid in the abdominal cavity. The patient underwent laparotomy (right) and salpingectomy. Even though β -hCG levels are low and declining, the possibility of rupture should be kept in mind.

Keywords: Ruptured Ectopic Pregnancy; Tubal Pregnancy; Low β -hCG Levels.

Öz

Ektopik gebelik uterus kavitenin dışında oluşan gebeliktir. Sıklıkla tubada olmak üzere abdominal kavite, over ve servikste görülebilir. Rüptüre ektopik gebeliklere bağlı anne ölümleri günümüzde transvajinal sonografi ve serum β -hCG (beta human koryonik gonadotropin) ölçümleri ile oldukça azalmıştır. Ancak ektopik gebeliğin kliniği ile β -hCG düzeyi arasında bir korelasyon yoktur. Çok düşük β -hCG düzeylerinde ektopik gebelik rüptürü gelişen bir olguyu sunmaktayız. Adet rötarı ile başvuran 29 yaşındaki nullipar hastanın serum β -hCG düzeyi 1051 mIU/ml olup ultrasonografide tubal gebelik düşünülmüş, akut batın bulguları olmaması ve 3. gün serum β -hCG düzeyi 727 mIU/ml olması üzerine haftalık takibe alınmıştır. Son vizitinden 2 gün sonra şiddetli alt karın ağrısı ile başvurdu. β -hCG düzeyi 39.8 mIU/ml idi. Ultrasonografide abdomende yaygın mayi izlendi, acil laparotomi, sağ salpenjektomi yapıldı. β -hCG düzeyleri düşük ve azalmakta olsa bile rüptür ihtimali her zaman akılda tutulmalı ve hastalar da bu konuda bilgilendirilerek takip edilmelidir.

Anahtar Kelimeler: Rüptüre Ektopik Gebelik; Tubal Gebelik; Düşük β -hCG Seviyesi.

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INTRODUCTION

Ectopic pregnancy is a pregnancy that occurs outside the uterine cavity. 97% of ectopic pregnancies are tubally located: of these, 55% settle in the ampulla, 25% in the isthmus, 17% in the fimbria, and only 3% are located in the abdominal cavity, ovaries and cervix (1).

The ectopic pregnancy rate in North America was 0.5% in the 1970s though it is reported to have risen to 2% in 1992 (1, 2).

Ruptured ectopic pregnancies used to claim 10-15% of all maternal deaths. However, thanks to the introduction of transvaginal sonography (TVS) and β -hCG measurements, rupture associated mortality rates were drawn back to 35.5 in 1970 and then to 3.8 of 10000 ectopic pregnancies in 1989, respectively (3).

The most important risk factors are previous ectopic pregnancy, tubal surgery, and exposure to intrauterine diethylstilbestrol. Earlier genital infections, infertility, and smoking increase this risk (2, 4).

Patients in reproductive age presenting with abdominal pain and vaginal bleeding followed by a 7-week period of amenorrhea should be suspected of ectopic pregnancies (1, 3, 5). For differential diagnosis, practitioners should consider acute appendicitis, abortion, ovarian torsion, PID, ruptured corpus luteum cyst or follicles, tubo ovarian abscess, and urinary stones.

For the diagnosis, ultrasonography, β -hCG measurement, and diagnostic curettage are commonly used. Patients should be considered for potential ectopic pregnancy if the serum β -hCG levels are at 1500 mIU/mL and the gestational sac is not observed in the cavity with transvaginal ultrasound (3, 6).

In normal intrauterine pregnancies, β -hCG levels increase at least by 53% within 2 days. The lack of regular increase in series of serum β -hCG measurements indicate an ectopic pregnancy by a sensitivity rate of 36% and by 65% specificity (7, 8).

Besides, it should also be kept in mind that β -hCG levels might be below 100 mIU/ml and above 50000 mIU/ml in ruptured and non-ruptured ectopic pregnancies (1).

CASE REPORT

A 29-year-old patient, who had a history of gravida 2, parity 0, abortion 1 and a total delay of 4 weeks, was admitted to our clinic with abdominal pain. The patient medical history did not have remarkable events and the primary vital signs are as follows: TA: 110/70 mmHg; pulse: 84 beats/min; body temperature: 36.4°C. The results of the gynecological examination were normal. The transvaginal sonography showed the uterus in its normal size while the endometrium was 3.3 mm in the echogenicity. The right ovary was 37x18mm in size; there was a 48x41mm heterogeneous mass next to the right ovary. The left ovary could not be evaluated

entirely. We observed minimal fluid in the pouch of Douglas. The patient's β -hCG serum level was 1051 mIU/ml on the first day of her admission (11.06.2012). There were no acute abdomen signs and we started to monitor for serial β -hCG measurements. The recorded β -hCG levels were as follows: 727 mIU/mL (14.06.2012); 213 mIU/mL (22.06.2012); 79.7 mIU/mL (29.06.2012). 2 days after the last recorded measurement, the patient was re-admitted to our hospital with abdominal pain. The vital signs were as follows: TA: 90/50 mmHg; pulse: 102 beats/min; body temperature: 36.7°C. On physical examination, we detected widely observed defence and rebound. The patient had cervical sensitivity in the gynecological examination. The transvaginal sonography showed spread fluid and coagulum appearances in the pouch of Douglas and bowel loops. While the uterus was of normal size and echogenicity, the ovary loges and the heterogeneous mass, which had been identified in the previous transvaginal sonography, could not be displayed clearly. The patient's serum β -hCG level was 39.8 mIU/ml. The patient underwent emergency laparotomy. The exploration of the area showed 750cc of blood and coagulum in the abdomen. We also detected a 4x5 cm bleeding ectopic focus in the right fallopian tube. The uterus, bilateral ovaries and left tube were viewed normal. The patient underwent right total salpingectomy with no complications. With a postoperative serum β -hCG level of 14 mIU/ml, the patient was discharged on postoperative day 2. The patient was called back to the clinic on postoperative day 7 for a follow-up. The serum β -hCG level was 4.9 mIU/ml and the patient was excluded from our follow-up list with no complaints.

DISCUSSION

In this report, we have presented the case of a patient diagnosed with ectopic pregnancy, who received ambulatory treatment due to lack of signs of an acute abdomen yet developed rupture while her serum β -hCG level was around 39,8 mIU/ml despite the gradual decrease in β -hCG levels. Today, there is serious reduction in the rates of death due to ruptured ectopic pregnancy after the implementation of TVS and β -hCG measurements (3). However, rupture is still being reported in low β -hcg levels. Resta et al. have similarly reported a case of an ovarian ectopic pregnancy of a 33-year-old patient with a serum β -hCG level of about 592 mIU/mL and no signs of an acute abdomen. They have reported that they operated the patient due to a sudden onset of abdomen pain and abdomen fluid observed in the USG despite the decrease of β -hCG level to 364 mIU/ml (9). Frates et al., in their research on 231 cases with ectopic pregnancies, have not observed statistically significant difference between rupture and β -hCG levels. In their study, they have not observed a threshold β -hCG value that could enable predicting tubal rupture, either. During the course of their study, 9.7% of the patients were reported to have developed rupture while their serum β -hCG levels were around 500 mIU/mL (10). Brennan et al. have reported 2 cases of chronic ectopic pregnancies, who had negative serum β -hCG levels and were operated due to acute rupture (11). DiMarchi et al.

have reported that 10% of the ectopic pregnancies in their study had experienced rupture with β -hCG levels of about 100 mIU/mL; 7% of the ruptures had taken place while β -hCG levels were below 100 mIU/mL (12). Similarly, Tulandi et al.'s study also reports rupture in 2 tubal ectopic pregnancy cases despite low and already decreasing β -hCG levels (13). Kupker et al. have also reported 4 cases of ectopic pregnancies who were followed due to low serum β -hCG levels and then undergone laparoscopy as a result of sudden onset of lower abdominal pain (14). Fu et al., too, have reported 2 ectopic pregnancies, who had β -hCG levels below 10 mIU/mL yet developed rupture and hemoperitoneum (15).

Subsequently, although there has been a significant decrease in ectopic pregnancy-related deaths with the measurement of β -hCG levels in blood, the possibility of ruptures should be kept in mind no matter how low or swiftly decreasing the β -hCG levels may be and patients should be informed and clinically followed with care for this possibility.

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