

## **Expectant Approach for Ectopic Pregnancy Presenting with a Bloody Pelvic Collection**

**Sharifa A. Alsibiani**, MB, BCH, ABOG

*Department of Obstetrics and Gynecology, Faculty of Medicine  
King Abdulaziz University, Jeddah, Saudi Arabia  
sharisibiani@yahoo.com*

### **Brief Communication**

A 33-year-old gravida 5, para 3, female with a history of one miscarriage and previous, spontaneous vaginal deliveries, presented to the emergency department at six weeks and four days of gestation. She complained of mild lower abdominal pain of one day duration associated with minimal vaginal bleeding. She reported that she became pregnant while using an intrauterine device (Copper type). She also reported no previous medical or surgical illness. On examination, she was not in pain and her vital signs were stable. Her abdomen was lax soft and non-tender. Minimal bright red vaginal bleeding was noted with a mildly positive cervical excitation test on her left side by bimanual examination. She was suspected from clinical presentation with a high possibility of ectopic pregnancy. A quantitative beta human chorionic gonadotrophin (BhCG) blood test was performed and detected levels of 1021 mIU/ml.

Trans-vaginal ultrasound was performed, which showed a picture of left ectopic pregnancy, with some clotted blood collections around

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Correspondence & reprint request to: Dr. Shafira A. Alsibiani  
P.O. Box 122413, Jeddah 21332, Saudi Arabia

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the left ovary. There was a complex mass arising from the left iliac fossa measuring  $6.61 \times 4.5$  cm. The appearance was suggestive of clotted blood collections. A fluid collection with low level echoes was noted in the pouch of Douglas. Her hemoglobin (Hb) count was 10.2 g/dl and her blood group was O+.

At this stage, she was admitted with a diagnosis of either stable, aborted left tubal ectopic pregnancy or intrauterine pregnancy with a ruptured left corpus luteal cyst. The clinical strategy included keeping the patient under close observation, giving nothing by mouth (NPO), infusing with intravenous fluids, and repeating a BhCG blood test after 48 hours. If BhCG levels decreased, which would suggest spontaneous abortion, or if BhCG levels doubled, which would indicate early intrauterine pregnancy with a stable ruptured corpus luteal cyst. The plan was to abstain from further clinical procedures. If the BhCG level increases but does not double, signifying an ectopic pregnancy that most likely aborted, and if the patient remained in stable condition, the plan entailed expectant management. However, at any time during the observation period, the patient exhibited any clinical signs of instability; the plan of action was to conduct a laparotomy. When expectant management was offered, the patient was informed of the risks and was prepared to comply with any follow-up procedures. The patient was counseled thoroughly.

During the 48 hour-observation period, the patient remained in stable condition. A repeated BhCG blood test showed an increase in BhCG levels but was not doubling: 1144 mIU/ml. An ectopic pregnancy was confirmed. Because of her stable, clinical condition and an almost plateau of BhCG levels, which increased only by 12% in 48 hours, the plan was to continue with expectant management if a third BhCG test indicates continuing decrease in the levels.

After 48 hours, BhCG levels began decreasing to levels of 1019 mIU/ml. Upon further analyses, BhCG levels progressively decreased to 963, 232.7, 137.6, 46, 54, and 19.85 mIU/ml. Within two weeks of clinical presentation, BhCG blood test was negative.

Repetitive measurements of Hb counts, taken five days after clinical presentation and just prior to making the decision to continue expectant management, revealed no significant changes in Hb levels (10.3 g/dl).

A repeated ultrasound was performed five days after clinical presentation and demonstrated that the left ectopic pregnancy now measured  $1.4 \times 1.27$  cm. Fluid with internal echoes was visualized in the posterior pouch of Douglas and measured  $5.1 \times 1.58$  cm.

A final ultrasound performed six weeks after the clinical presentation displayed a normal pelvic ultrasound with no free fluid in the pouch of Douglas. Furthermore, no blood collection was noted.

### **Discussion**

An ectopic pregnancy is a gynecological emergency. Overall, its incidence in the 1990s was reported as 20 per 1000 pregnancies<sup>[1]</sup>. If mismanaged, it can become a potentially life-threatening problem. A ruptured ectopic pregnancy is the major cause of pregnancy-related maternal mortality during the first trimester<sup>[2]</sup>.

Classic symptoms are one-sided lower abdominal pain and light vaginal bleeding six to eight weeks after the last menstrual period. Ectopic pregnancy should be suspected in any woman of reproductive age with these symptoms, especially in patients who become pregnant while using an intrauterine device, as occurred in this case.

The diagnosis of ectopic pregnancy is made by 1) using a quantitative assay for BhCG and 2) findings on a high-resolution transvaginal ultrasonography (TVUS). These tests enable early diagnosis of the ectopic pregnancy before a tubal rupture occurs. If TVUS does not reveal an intrauterine pregnancy and reveals a complex adnexal mass, an extra-uterine pregnancy is almost certain<sup>[2]</sup>. An ectopic pregnancy can be diagnosed, if the serum BhCG concentration is increasing but not doubling or at plateau levels<sup>[2]</sup>, which occurred in this case.

Ectopic pregnancy poses a great risk and should be treated as soon as possible after diagnosis. If left untreated, an ectopic pregnancy in the fallopian tube may regress spontaneously or progress to a tubal abortion or tubal rupture<sup>[2]</sup>. Dropping in BhCG concentrations after the diagnosis of an ectopic pregnancy is most consistent with either a spontaneously resolving ectopic pregnancy or a tubal abortion. Women who have a tubal abortion can develop severe bleeding requiring immediate surgical intervention, or minimal bleeding not requiring further treatment.

Generally, an ectopic pregnancy requires surgical or medical treatment. However, the expectant management is appropriate in few cases, in which the risk of tubal rupture is minimal, or in a clinically stable aborted ectopic pregnancy with minimal bleeding (as in this case), especially with low and declining BhCG levels.

Expectant treatment should not be attempted or should be abandoned in a woman with a known or suspected ectopic pregnancy with the following characteristics<sup>[3]</sup>:

- Hemodynamic instability
- Signs of impending or ongoing ectopic mass rupture (*i.e.*, severe or persistent abdominal pain or > 300 ml of free peritoneal fluid outside of the pelvic cavity)
- BhCG greater than 200 mIU/ml, which is increasing or is not declining
- Unwillingness or inability to comply with monitoring
- Lack of timely access to a medical institution

The BhCG level and ectopic size cut-off varies in different studies, but the importance of clinical stability of the condition does not vary. In this case, in spite of the BhCG >1000 mIU/ml that was decreasing, and in spite of the radiological evidence of a pelvic bloody collection, we proceeded with an expectant approach as long as the patient's condition was stable. We successfully circumvented long-term and short-term complications of a surgical option, which is the conventional approach in a case presenting with a bloody pelvic collection. Success rates for expectant management of ectopic

pregnancy varies between 48 and 100 percent have been reported. This wide variation is due, in part, to differences in inclusion criteria<sup>[3]</sup>.

A review of ten studies, including 347 patients, which prospectively evaluated expectant management in selected patients, found an overall efficacy of approximately 70 percent<sup>[3]</sup>. All patients were hemodynamically stable with continually decreasing serum HCG levels. However, other variables, including size and location of the ectopic pregnancy, presence of fetal cardiac activity, presence of symptoms, and the amount of free fluid in the pelvis, were not always specified<sup>[3]</sup>.

Patients treated with expectant management should be closely monitored. Expectant treatment should be abandoned if the serum HCG starts to increase or fails to decrease, or the abdominal pain increasing<sup>[3]</sup>. None of these conditions applied to our patient.

It is not easy to predict which patients will end by spontaneous resolution. Potential candidates include hemodynamically stable women with an initial BhCG concentration less than 2000 IU/l that ultimately declines<sup>[2]</sup>.

Our message from this brief communication is that the expectant management of ectopic pregnancy still can be used and it has a beneficial role in selected ectopic cases. The presence of a pelvic blood collection in a patient with an ectopic pregnancy should not be the only indicator for surgical intervention, which is not without short-term and long-term complications. This condition can take advantage of avoiding a laparotomy and the hazards of anesthesia. A patient with an ectopic pregnancy should be evaluated collectively, not only by radiological or laboratory findings. It is important not to overlook the clinical situation of the patient. Therefore, expectant management still has a role and appears to be reasonable in selected cases with an aborted ectopic pregnancy, based upon clinical stability and declining or stable BhCG levels. Identifying these patients would avoid them the complications of surgical and medical approach. The success of this approach in term of, tubal patency, and later

intrauterine pregnancy, was found comparable to that of patients undergoing medical or surgical management<sup>[4]</sup>.

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