

## Negative Urine B-hCG Pregnancy Test in Chronic Ectopic Pregnancy – a Case Report

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### ABSTRACT

Ectopic pregnancy (EP) is a gynecological emergency that can bring catastrophic condition leading tubal rupture and hemorrhagic shock. Chronic ectopic pregnancy is a very rare type of tubal pregnancy presenting with a tubal mass with negative B hCG ( beta human chorionic gonadotropin test. We present a case in twenty seven years old female with a history of six weeks of amenorrhea with complain of acute lower abdominal pain and per-vaginal bleeding. Urine pregnancy test (UPT) was negative. A total left salpingoectomy was undertaken and the histopathological examination revealed the presence of chorionic villi, suggesting the diagnosis of chronic ectopic tubal pregnancy. It is obvious that ectopic pregnancy could not be excluded with negative urine B-hCG test.

**Key Words:** Chronic ectopic pregnancy, urine pregnancy test, ultrasound

### INTRODUCTION

Ectopic pregnancy (EP) is defined as implantation and subsequent development of an embryo outside the uterine lining. It has wide range of presentation, from acute hemoperitoneum to chronic ectopic pregnancy. Although the incidence of ectopic pregnancy in recent years in developing countries has relatively remained stable, between 1970 and 1992 there was an estimated six-fold rise in the incidence of ectopic pregnancy. <sup>1,2</sup> Since then the associated mortality has decreased markedly to 0.5 deaths per 1000 pregnancies, mainly due to timely diagnosis and treatment before rupture. <sup>1</sup> EP related maternal mortality rate in Nepal is 1.1%. <sup>3</sup> Differential diagnosis of acute abdominal pain in reproductive aged women includes acute appendicitis, pelvic-inflammatory diseases, ovarian cyst complication and renal colic. However diagnosis remains uncertain unless abdominal and pelvis ultrasound is advised; meanwhile urine-B hCG is done. Negative urine pregnancy test creates dilemma to preoperative diagnosis of ectopic pregnancy in emergency ward which we present in this case report.

### CASE REPORT

A 26 year old female referred from nearby community hospital visited emergency department of our hospital with complain of a day of abdominal pain and minimal vaginal bleeding. Her last menstrual period was about 4 weeks ago prior to admission. She had a history of baby boy of six years old with normal vaginal delivery. No history of contraceptive use after that. Her vitals were stable during physical examination. Her laboratory findings were unremarkable. Random blood sugar level was 80 mg/dl; Packed Cell Volume (29.6), RBC (3.73x10<sup>6</sup> cells/mm<sup>3</sup>) and WBC 8.9x10<sup>3</sup>cells/mm<sup>3</sup> were within the normal limits. Hemoglobin was 10.8gm/dl, urine B-hCG found to be negative. Per vaginal examination was also done, however uterus could not be assessed besides minimal bleeding or collection with negative Cervical Motion Tenderness (CMT) was revealed. Immediate trans-abdominal ultrasound revealed ill-defined hypoechoic mass in left adnexa measuring 4.4x3.2cm. Uterus was slightly bulky with empty endometrial cavity. Minimal free fluid noted in pouch of Douglas and in Morrison's pouch. Ruptured corpus luteal cyst was pre-operatively diagnosed as repeated urine B-hCG

test was negative. Emergency exploratory laparotomy with left salpingectomy was performed which revealed ruptured fallopian tube at infundibulum on left side with approximately 600 milliliter of clots/blood. Bilateral ovaries were normal. Histopathological examination revealed fallopian tube comprising of thickened and congested blood vessels with few chorionic villi lined by cytotrophoblast and syncytiotrophoblast along with the extensive areas of hemorrhage and fibrin. No atypia noted.

## DISCUSSION

The incidence of chronic ectopic pregnancy varies and thus is a challenge for obstetricians in its diagnosis.<sup>4</sup> It is a form of tubal pregnancy with multiple episodes of small recurrent bleed into the peritoneal cavity that incites inflammatory response leading to a pelvic mass.<sup>5</sup> Its clinical features are still confusing and even laboratory findings are misleading including negative urine B-hCG analysis for pregnancy. Surgical management is further challenging because of chronic inflammation and resultant adhesions between the pathology site and adjacent bowel/bladder. Generally in acute ectopic pregnancy, ultrasound, clinical and laboratory findings are enough to diagnose pre-operatively that aids in rapid/timely surgical management. As in our case, ultrasound finding of left adnexal mass with minimal free fluid in peritoneal cavity was highly suggestive of tubal pregnancy but her laboratory findings did not help us. One of the reason might be low concentration of urine  $\beta$ -hCG levels (<10 mIU/mL).

Hence clinically it was diagnosed as rupture corpus luteal cyst. Chronic ectopic pregnancy previously described as an ectopic pregnancy that was frequently associated with negative pregnancy test in which the sac was marked by degeneration, mass of organized hematoma with surrounding adhesions.<sup>6</sup> Recent study revealed the mechanism of low or negative serum B-hcG as might be use of less older sensitive assay ; trophoblastic degeneration with discontinuance of hormone production ; very small mass of villi producing the hormone,

defective biosynthesis of hormone production and enhanced circulatory clearance of the hormone.<sup>6</sup> In this case, serum B-hCG test service would be more helpful rather relying only on urine analysis as it will not be definitive for sometime.

## CONCLUSION

Hemoperitoneum with tubal abortion associated with negative pregnancy is a rare case; however when a child bearing age group patient comes with the history of abdominal pain and unequivocal peritoneal signs, surgical intervention should not be delayed even if the urine B-hCG test is negative.

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