



# Second Trimester Broad Ligament Ectopic Pregnancy

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**Keywords:** Broad ligament; Ectopic pregnancy.

**Abstract**

**Background:** Pregnancy in the broad ligament is a rare type of abdominal ectopic pregnancy, *in which, the gestational tissue implant between the layers of the broad ligament*. The reported incidence of all abdominal pregnancies is 1.4% of ectopic pregnancies. Due to its rarity and great variations of clinical presentation, diagnosis is seldom established before surgery. There is no adequate data beyond few case reports.

**Case presentation:** I report a case of 24 years old primigravida woman at gestational age of 16 weeks who visit one of private Maternal and Child Health Center in Bahir Dar, Ethiopia for safe abortion. She took 200 mg mifepristone as an outpatient and admitted after 24 hours. After admission 800 mcg misoprostol inserted vaginally followed by four doses of 400-microgram misoprostol every 4 hours. She took this regimen two times, but it was not effective. After repeated course of prostaglandins, abdominal ectopic pregnancy was diagnosed by abdominal and trans-vaginal ultrasound.

**Conclusion:** Failure of uterine response to prostaglandins should alarm for strong suspicion for abdominal pregnancy for early diagnosis and intervention.

**Introduction**

Broad ligament Ectopic Pregnancy (EP) is a rare type of *retroperitoneal* abdominal pregnancy, *in which, the gestational tissue implant between the layers of the broad ligament*. Broad ligament pregnancy is an extremely rare form of abdominal ectopic pregnancy. Incidence of broad ligament ectopic pregnancy is reported as 1.4% of all ectopic pregnancy [1]. The definite pathogenesis for the development of broad ligament EP is unknown [2]. Three different possible mechanisms were suggested in different literatures. Usually broad ligament pregnancy occurs when trophoblasts penetrate the fallopian tubes and implant between the two leaves of broad ligament. The other possible way is presence of uterine fistula between endometrial cavity and retroperitoneal space between the leaves of broad ligament [3]. Rarely can it occur after spontaneous separation of an old caesarean section scar, after uterine perforation during a therapeutic or elective abortion, and after subtotal or total hysterectomy [3].

**Case presentation**

Twenty-four years old, Gravida 1 Para 0, women presented at gestational age of 16 weeks / Ultrasound estimation / to a private Maternal and Child Health Center in Bahir Dar, Ethiopia for safe abortion. She had no history of treatment for pelvic infection, pelvic surgery or infertility treatment. Physical examination revealed a closed cervix and 16 weeks sized abdomino-pelvic mass, considered as a gravid uterus. Complete blood count and urine analysis show normal result. Ultrasound shows 16 weeks normal fetus with positive fetal heartbeat.

She took 200 mg mifepristone as an outpatient and admitted after 24 hours. After admission 800 mcg misoprostol inserted vaginally followed by four doses of 400-microgram misoprostol every 4 hours. She took this regimen two times, but it was not effective. After 4 days of admission, fetal heartbeats becomes negative. With the diagnosis of second trimester-missed abortion, balloon catheter inserted for cervical dilatation. Next



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day cervix was 1 cm open. Senior gynecologist was consulted for evaluation and both abdominal and trans vaginal ultrasound shows empty uterus with well-formed fetus above the uterus, estimated gestational age was 17 weeks, fetal heartbeat was negative (**Figure 1**). Abdominal pregnancy was considered. After informed written consent, cross-matched blood was prepared and she was taken to operation room for laparotomy. Abdomen entered through pfannenstiell incision. The intra operative finding was none gravid normal size uterus, normal ovaries and right fallopian tube and 20x20x20 cm mobile vascularized mass located in the left broad ligament with intact smooth surface. The left tube was not identified (**Figure 2**). There was no blood



**Figure 1:** Ultrasound showing empty uterus, fetal head and maternal bladder.



**Figure 2:** Picture showing the intraoperative finding of normal uterus and mass in the broad ligament.



**Figure 3:** A well-formed fetus found when the mass incised; the placenta found on posterior leaf of the broad ligament.

in the cul de sac. The mass was excised, incised and examined. It contains well-formed fetus with the placenta attached to the posterior wall of the broad ligament (**Figure 3**). The patient discharged with stable condition on the second post-operative day.

### Discussion

Broad ligament pregnancy is an extremely rare form of abdominal ectopic pregnancy. Incidence of broad ligament ectopic pregnancy is reported as 1.4% of all ectopic pregnancy [1]. The definite pathogenesis for the development of broad ligament EP is unknown [2].

Diagnosis of broad ligament ectopic pregnancy is extremely rare before surgery. This is due to wide range of clinical presentation, from no symptom at all up to failure of response to utero-tonic agents, IUGR, oligohydramnios or acute abdomen due to rupture of ectopic pregnancy. During second and third trimester pregnancy, unusual irresponsive uterus for utero-tonic agents should raise the suspicion of abdominal pregnancy. PGE was reported to be successful for mid-trimester abortion induction in 97 -99% of cases [4, 5]. In one published case, report syntocinon infusions given to a woman at 2<sup>nd</sup> trimester for termination of pregnancy on 5 occasions spread over 14 days, at steadily increasing dose rates, but with no effect [6]. Finally, it was confirmed that she had broad ligament pregnancy. This clinical condition and its management was almost similar to our case. Therefore, when prostaglandins fails to effect expulsion of the fetus in advanced pregnancy, further evaluation for broad ligament abdominal pregnancy may avoid delay in diagnosis and treatment.

### Conclusion

Failure of uterine response to prostaglandins for induced abortion in advanced pregnancy is an important alarming sign to consider further evaluation for possible abdominal pregnancy.

**Patient perspective:** NA

**Ethical approval**

Ethical approval is not needed do to the significant clinical importance of the case. Client give a verbal consent for use of all the clinical findings without mentioning her name and identity.

**Approval for publication:** The author gives the approval for publication

**Competing interests:** There is no competing of interest

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