DOI: https://doi.org/10.3329/medtoday.v35i1.64948

CASH REPORT OPEN ACCESS

Intraligamentary Pregnancy- A Rare Obstetric Event

Asma Binte Khair *[1] , Mahmuda Rahman [2] , Rumana Afroz[3]

Abstract

Introduction: *Intraligamentary pregnancy is a rare form of ectopic pregnancy, where the gestation grows within the leaves of the broad ligament. Clinical presentation, diagnosis and outcome are highly variable.* ***Case report:*** *Here, we report a case of a 30 years old lady (P2G7), presented at her 13+ weeks of pregnancy with acute abdomen and severe anaemia. USG revealed extrauterine alive pregnancy with huge peritoneal collection. Emergency laparotomy was performed and final diagnosis was made as ruptured intraligamentary pregnancy. Right sided salpingooophorectomy was done. Our main challenge was to control bleeding and to maintain haemostasis at the placental implantation site.* ***Conclusion:*** *Although, definite preoperative diagnosis based on clinical sign symptoms and sonographic evaluation is elusive, proper resuscitation and surgical expertise can save a mother's life. Role of MRI and Laparoscopy in selected cases should be in consideration.*

Keywords: *Intraligamentary pregnancy, Acute abdomen, Exploratory laparotomy, Salpingooophorectomy, Haemostasis.*

Number of Figures: *03; Number of References: 12; Number of Correspondences: 03*

***1. Corresponding Author:**
Dr. Asma Binte Khair, MS (Obgyn)
Registrar
Department of Obstetrics and Gynaecology
Khulna Medical College Hospital, Khulna.
E-mail : dr.asma.lina@gmail.com .
Mobile : 01716233101

2. Dr. Mahmuda Rahman
MBBS, DGO
Indoor Medical Officer
Khulna Medical College Hospital, Khulna.

3. Dr. Rumana Afroz
MBBS
Indoor Medical Officer
Khulna Medical College Hospital, Khulna.

Introduction:

Intraligamentary pregnancy, commonly known as Broad ligament pregnancy, has a reported incidence of 1 in 183,900 live births and occurs in 1 in 245 ectopic pregnancies[1]. It is a rare but potentially fatal condition. The clinical presentation of intraligamentary pregnancy is highly variable and can range from asymptomatic early ectopic pregnancy to ruptured ectopic pregnancy in advanced gestation[2]. There is also case report of term delivery of Broad ligament pregnancy[3]. This condition is best diagnosed via ultrasonography and MRI and in most cases diagnosis is confirmed during laparotomy. But high index of clinical suspicion is necessary for preoperative diagnosis. The eitiology of intraligamentary pregnancy is unknown and does not have any pattern of genetic inheritance[4]. The prerequisite for developing intraligamentary pregnancy are: The expanding gestational sac must split the oviduct precisely between the leaves of broad ligament, the amniotic cavity at least should be intact to permit the fetus to continue to grow in the extraperitoneal sac, and this rupture must occur early enough so that the villi are capable of expanding at their areas of nidation. The placenta may erode beyond the tubal confines to invade in adjacent structures[4]. Here, we report a case of intraligamentary pregnancy at 13 th week gestation with typical features of ruptured ectopic pregnancy, extrauterine gestation was diagnosed by ultrasound scan and final diagnosis was confirmed during laparotomy.

Case Report:

This is a case of 30 years old (P2G7) lady, attended in gynae emergency ward at her 13 + weeks of pregnancy with acute abdomen and severe anaemia. She had early features of circulatory shock and clinically diagnosed as a case of ruptured ectopic pregnancy. An obstetric ultrasound was done in emergency department which revealed an alive ectopic pregnancy near the right cornu of the uterus with huge haemoperitoneum. Uterus was bulky with empty cavity (Figure 1). Emergency laparotomy was arranged along with prompt resuscitation measures. Within three hours of admission, exploratory laparotomy was performed under general anaesthesia. After opening of the abdomen, 300ml of blood and blood clots were removed. On further exploration, Uterus was found 10 weeks size and soft. An intact gestation sac was found measuring about (12x10) cm in the right adnexal region covered with omentum. During dissection, the sac was ruptured and an alive fetus with CRL of 60 cm was extracted (Figure 2). The thin umbilical cord was traced and the placenta was found implanted in the posterior layer of the broad ligament. Placenta was extracted meticulously from its attachment (Figure 3). Consequently, active bleeding started from the placental sinuses. Immediately clamps

Received: *22 October 2022* ***Accepted revised version:*** *28 December 2022*

were applied and right sided salpingo-oophorectomy was performed. Right ovary was adherent with the placental site, hence could not be saved. We faced difficulty in maintaining haemostasis at the placental attachment site. Several mattress sutures were needed to stop oozing from the posterior layer of the broad ligament. Finally thorough peritoneal lavage was done and an intraperitoneal drain was placed. Two units of whole blood ware transfused during the procedure. Reversal from general anaesthesia and postoperative recovery were uneventful. She was discharged from hospital on her fifth postoperative day with appropriate follow up advice.

Figure 1 : USG shows extrauterine pregnacy of 13 weeks gestation, near uterine cornu.

Figure 2: Extracted fetus with placenta

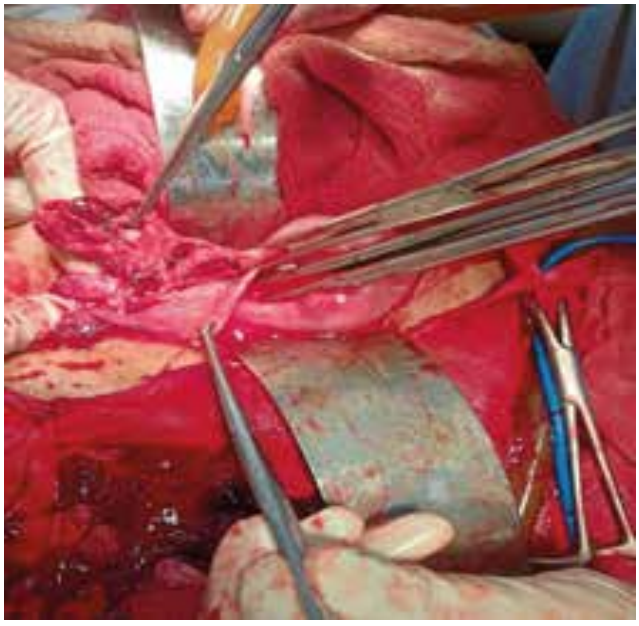

Figure 3: Per operative finding after removal of the ectopic gestation sac showing intact fallopian tube and ovary with opened leaves of broad ligament.

Discussion:

Abdominal pregnancies account for 1% of all ectopic pregnancies, where maternal mortality has been reported to be as high as 20% [5,6] . Intraligamentary pregnancy is a rare form of abdominal pregnancy. Various risk factors include- Pelvic inflammatory disease, use of IUCD, use of progesterone only pill, a previous history of ectopic pregnancy, abdominal tuberculosis, endometriosis and pelvic adhesive disorder[7]. In our case, we found moderate pelvic adhesion, may be due to previous two C-sections. The clinical presentation of intraligamentary pregnancy varies from mild abdominal discomfort, small amount of vaginal bleeding, placental insufficiency due to abnormal implantation which leads to fetal demise to catastrophic internal haemorrhage manifesting with acute abdomen and shock as in our case. Clinical suspicion as well as radiological tools such as ultrasound scan (especially TVS) and MRI is of much helpful in diagnosis of such cases but final diagnosis is mostly done during laparotomy [3,8,9]. Exploratory laparotomy is the gold standard method in the management of intraligamentary pregnancy[10]. However, in haemodynamically stable patients, removal of small broad ligament pregnancies can be considered laparoscopically[11]. But laparoscopy may have to be converted into laparotomy as done in case report of Siddiqui M et al[12]. Varieties of clinical presentations and outcomes were reviewed in Cheung CS et al study report[2]. There are also reports of advanced pregnancies delivered at 30 weeks[10]. The main challenge is to maintain haemostasis after separation of placenta from peritoneal surface and other structures, [12] which we faced in our case also.

Conclusion:

Intraligamentary pregnancy is a rare obstetric event and potentially life threatening condition. But mothers can be saved when early diagnosis and prompt management is undertaken. Ultrasonography is the safest and cheapest tool for diagnosis of extrauterine pregnancy, while MRI provides detailed anatomical information including placental implantation site, thus helps in surgical planning. Laparoscopic approach in stable patients at early gestation also improves the outcome. Furthermore, an experienced surgeon, capable of prompt haemostatic management can reduce maternal morbidity and mortality.

Conflict of Interest: None.

Acknowledgement:

We are grateful to all the faculties and stuffs of the department of Obs and Gynae of Khulna Medical College Hospital, Khulna for their tremendous support in prompt management of the patient.

References:

1.Chia KV, Fayle RJS, Ferriman E. Intraligamentary pregnancy. J Obstet Gynaecol. 1993;13:254.

https://doi.org/10.3109/01443619309151853

2. Cheung CS-y, Cheung VYT. Broad ligament ectopic pregnancy. CRSLS e2014.00102.

https://doi.org/10.4293/CRSLS.2014.00102

3. Rudra S, Gupta S, Taneja BK, Gupta R. Full term broad ligament pregnancy through a Caesarean scar. Obstet Gynecol Sci. 2013;56(6):404-7.

https://doi.org/10.5468/ogs.2013.56.6.404

PMid:24396820 PMCid:PMC3859019

4. Sreshtha HK, Gurung G, Koirala S, et al, Intraligamentary pregnancy: A Case Report. Donald Scool J Ultrasound Obstet Gynecol 2021: 15(4):411-413.

https://doi.org/10.5005/jp-journals-10009-1830

5. Ludwig M, Kaisi M, Baeur O, Diedrich K. The forgotten child: a case of heterotropic, intraabdominal and intrauterine pregnancy carried to term. Hum Reprod. 1999;14:1372-4.

https://doi.org/10.1093/humrep/14.5.1372

PMid:10325296

6. Alto W A. Abdominal pregnancy. Am Fam Physician. 1990;209-14.

7. Coredo D R, Adra A, Yasin S, O'Sullivan MJ. Intraligamentary pregnancy. Obstet Gynecol Surv. 1994;49:206.

https://doi.org/10.1097/00006254-199403000-00026

PMid:8164915

8. Sharma S, Pathak N, Goraya SPS, Mohan P. Broad ligament ectopic pregnancy. Srilanka Journal of obstetrics and gynaecology. 2011;33:60-2.

https://doi.org/10.4038/sljog.v33i2.4008

9. Matovelo D, Ng'walida N. Hemoperitoneum in advanced abdominal pregnancy with a live baby: a case report. BMC Research Notes. 2014;7:106.

https://doi.org/10.1186/1756-0500-7-106

PMid:24564927 PMCid:PMC3936837

10. Gupta A, Mahajan N, Verma D, Sharma C, Rattan A, Gupta B. Broad ligament pregnancy a diagnostic dilemma: a case report. Int J Reprod Contracept Obstet Gynecol. 2016;5:2478-80.

https://doi.org/10.18203/2320-1770.ijrcog20162157

11. Pisarka MD, Casson PR, Moise KJ Jr, Di Maio DJ, Buster JE, Carson SA. Heterotropic abdominal pregnancy treated at laparoscopy. Fertil Steril. 1998;70:159-60.

https://doi.org/10.1016/S0015-0282(98)00104-6

PMid:9660440

12. Siddiqui M, Ghafoor N, Naznine F, Abdullah RS, Chowdhury TA. Bangladesh J Obstet Gynaecol. 2018:33(2):164-66.

https://doi.org/10.3329/bjog.v33i2.43574