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## Angular Pregnancy a Case Report

By Dr. Subashini, Dr. Nina V Kate, Dr. Madhuri Vasudevula  
& Dr. Jyothi Boble James

**Abstract-** Angular pregnancy though rare yet is an important entity since it is associated with complications during pregnancy and delivery such as persistent pelvic pain and bleeding, spontaneous abortion, uterine rupture, abnormal placental implantation, post partum hemorrhage and maternal death <sup>(1)</sup>. Due to lack of clinical understanding, angular pregnancy does not appear to be recognized as a clinical entity and, many cases are likely to go undiagnosed. Here we report a case of a 27 yr old primi who was referred to our hospital for termination of pregnancy in view of anomalous baby, presented with severe abdominal pain and vomiting after induction of labour. She underwent emergency laparotomy in view of threatened rupture and, surprisingly it turned out to be a conceptus of 20 wk angular pregnancy implanted in the right angle of the uterine cavity.

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# Angular Pregnancy a Case Report

Dr. Subashini <sup>α</sup>, Dr. Nina V Kate <sup>σ</sup>, Dr. Madhuri Vasudevula <sup>ρ</sup> & Dr. Jyothi Boble James <sup>ω</sup>

**Abstract-** Angular pregnancy though rare yet is an important entity since it is associated with complications during pregnancy and delivery such as persistent pelvic pain and bleeding, spontaneous abortion, uterine rupture, abnormal placental implantation, post partum hemorrhage and maternal death <sup>(1)</sup>. Due to lack of clinical understanding, angular pregnancy does not appear to be recognized as a clinical entity and, many cases are likely to go undiagnosed. Here we report a case of a 27yr old primi who was referred to our hospital for termination of pregnancy in view of anomalous baby, presented with severe abdominal pain and vomiting after induction of labour. She underwent emergency laparotomy in view of threatened rupture and, surprisingly it turned out to be a conceptus of 20wk angular pregnancy implanted in the right angle of the uterine cavity. The fetus and placenta were extracted and, the uterus was repaired. Thorough understanding of angular pregnancy is must since its clinical findings and outcomes are different from other forms of ectopic pregnancy.

## I. INTRODUCTION

Angular pregnancy was first defined in 1898 by American Obstetrician Howard Kelly as “Implantation of an embryo just medial to the uterotubal junction and round ligament in the lateral angle of the uterine cavity”<sup>(2)</sup>. Angular pregnancy is potentially dangerous and may lead to complications during pregnancy and delivery such as persistent pelvic pain, bleeding, spontaneous abortion, uterine rupture, abnormal placental implantation, postpartum hemorrhage and maternal death <sup>(1)</sup>. The terms angular, interstitial, and cornual pregnancy have often been inappropriately interchanged. It is important to differentiate these terms as angular pregnancy can be followed up expectantly under close surveillance till term while interstitial and cornual pregnancies need to be terminated by medical or surgical methods <sup>(3,4,5)</sup>. An angular pregnancy is an eccentric intrauterine pregnancy with implantation of the embryo in the supero lateral angle of the uterine cavity. It results in asymmetrical enlargement of the uterus and lateral displacement of the round ligament. Angular pregnancy is perceived to be rare in medical literature, and <100 cases are reported. An interstitial pregnancy is an ectopic or extrauterine pregnancy which occurs when implantation is within the myometrium of interstitial part of the fallopian tube. Where as a cornual pregnancy is described when pregnancy occurs in one horn of a bicornuate uterus or septate uterus or in a rudimentary horn of a unicornuate uterus <sup>(4)</sup>.

Author <sup>α</sup>: e-mail: [drsubashinikannan79@gmail.com](mailto:drsubashinikannan79@gmail.com)

## II. CASE REPORT

A 27 yr old primigravida married since 1 yr was referred to our hospital at 20 wks of gestational age for termination of pregnancy in view of anomalous baby. Patient had a scan done at 6 wks of gestation which showed single intrauterine gestational sac with fetal pole and cardiac activity with healthy chorion. She reported of spotting PV at 8 wks of gestation for which she was started on oral progesterones and a repeat scan showed normal live fetus of 8 wks. She continued her pregnancy and an anomaly scan done at 19 wks of gestation revealed bilateral ventriculomegaly and then she was referred to our hospital for termination.

Bimanual examination revealed 20 wk uterus with cervix high up, os closed and no abnormal discharge.

After induction with mifepristone and misoprostol patient presented with severe abdominal pain and vomiting, her general condition was fair, and uterus was found to be tense and tender. On bimanual examination, anterior fornix was very deep, and the cervix was high up and could not be reached, post vaginal wall was lifted up like a septum through which presenting part was felt, and there was no abnormal discharge.

A decision for immediate laparotomy was taken in view of threatened rupture. Intraoperatively, the uterus was found to be asymmetrically enlarged and, no fetal parts were felt anteriorly, a right uterine angle was bulging with fetal parts and was buried into the POD lifting the posterior vaginal wall from below. The uterus was delivered out and the Right round ligament and tube were found to be displaced upwards and laterally, an incision was made in the bulging area, fetus and placenta extracted into too. There was a wide communication to the uterine cavity and, thin layer of myometrium could be seen, and this area started contracting and retracting. Square compression sutures were taken at the angle through the anterior and posterior walls to secure hemostasis and incision closed in 2 layers. Postoperative period was uneventful and, the patient was discharged on the 5<sup>th</sup> postop day. The Patient was reviewed after 15days and uterus was found to be normal size, mid position and, bilateral fornices free.



*Figure 1:* Image showing right angular Pregnancy with lateral displacement of round ligament



*Figure 2:* Intraop image showing fetus and uterus with right angle incision

### III. DISCUSSION

It is difficult to diagnose angular pregnancy with certainty and has to be differentiated from other abnormal implantation using sonography.

3d ultrasound and MRI can facilitate the diagnosis and reduce the possibility of diagnostic failure, evaluate the placental implantation anomalies and predict risk of uterine rupture.<sup>(6)</sup>

Specific criteria for diagnosing angular pregnancy were proposed by Jansen and Elliot in 1981 as<sup>(7)</sup>,

- 1) Clinical presentation with painful asymmetrical enlargement of uterus.
- 2) Directly observed lateral distension of uterus with or without rupture, accompanied by displacement of round ligament reflection laterally.
- 3) Retention of placenta in uterine angle<sup>(7)</sup>.

It was proposed by Grand et al, that surrounding endometrium is a specific sign. This sign is based on the hypothesis that, a double sac sign (a layer of decidual reaction and a chorionic ring) should be seen in angular pregnancy given its endometrial

implantation like other intrauterine pregnancies, while in interstitial pregnancy it is not seen as its location devoid of the endometrium<sup>(8)</sup>. Similar findings have been reported on MRI i.e. a gestational sac surrounded by hyperintense endometrium suggests an angular pregnancy, while a sac surrounded by T2 hypointense myometrium suggests an interstitial pregnancy<sup>(9)</sup>.

Angular pregnancies either terminate spontaneously or proceed to a potentially viable intrauterine pregnancy with significantly increased risk of complications during pregnancy and delivery. Jansen and Elliot reviewed 39 cases of angular pregnancies and reported a 38.5% chance of spontaneous or missed abortions and 13.6% chance of uterine rupture<sup>(7)</sup>. Which was updated Subsequently in 2014, with the addition of 46 cases, adjusting the estimates to 18% risk of spontaneous abortions & 28% risk of uterine rupture. The overall live birth rate was 25% but, those pregnancies managed expectantly and not terminated this rose upto 69 %.<sup>(10)</sup>

Management of angular pregnancy depends on the time of diagnosis, risk factors and desire for future pregnancies. Transvaginal ultrasound-guided, IM methotrexate injections (1mg/kg on day 1 & 3) in combination with folic acid inj intramuscularly, (0.1mg/kg on day 2 & 4) followed by operative hysteroscopy after 2 days to confirm collapsed sac, or by IM methotrexate (1mg/kg on day 0, 2, 4 and 6) in combination with IM folic acid ( 0.1mg/kg on 1, 3, 5 and 7) followed by diagnostic laparoscopy and hysteroscopy can be the options<sup>(11)</sup>.

Potential disadvantages of expectant management may include catastrophic complications such as uterine rupture. Baldawa et al, reported a case of angular ectopic pregnancy presenting as a ruptured lateral wall of the uterus<sup>(12)</sup>.

Based on patients choice expectant management of angular pregnancy can be chosen with proper, necessary counseling regarding natural courses, complications, need for close monitoring and frequent ultrasound. as a case of angular pregnancy treated by expectant management till 37 weeks, followed by repeat cesarean section with the delivery of healthy fetus weighing 3kg was documented<sup>(3)</sup>. The site of Angular pregnancy may be associated with uterine atony and inadequate contractions due to lack of myometrial tissue and increased bleeding due to excessive vascular development. In such case, square compressions suture through anterior and posterior wall to obliterate the asymmetrical uterine sacculation can be taken (1).

### REFERENCES RÉFÉRENCES REFERENCIAS

1. Ibrahim Alanbey, Mustafa Ozturk, Kazim Emre Karasahin, Mufit Cemal Yenen. Angular pregnancy. Turk J Obstet Gynecol 2016; 13:218-20.

2. H. A. Kelly, Operative Gynaecology, Appleton, newyork, 1898.
3. Cherie Q. Marfori\*, Mollie Kotzen. Angular vs. interstitial pregnancy: A case report highlighting diagnostic nuances with stark management differences. Case reports in woman's Health. 2214-9112/2018.e00068.
4. F. G. Cunningham, K. J. Leveno, S. L. Bloom, et al., Ectopic pregnancy, Williams Obstetrics, 24<sup>th</sup> edition, New York, 2014.
5. V. B. Bayyrapu, S. R. Gundabattula, J. Obstet, Gynaecol. India 67(6) (2017) 414-420.
6. Tanaka Y, Mimura K, Kanagava T, Kajimoto E, Takahashi K, Kakigano A, et al. Three-dimensional sonography in the differential diagnosis of interstitial, angular, and intrauterine pregnancies in septate uterus. J Ultrasound Med. 2014; 33:2031-5. Doi; 10.7863/ultra.33.11.2031. PubMed PMID: 25336492.
7. Jansen R P, Elliott P M. Angular intrauterine pregnancy. Obstet Gynecol 1981; 58:167-75.
8. A. Grant, A. Murji, M. Atri, D. Epid, can the presence of a surrounding endometrium differentiate eccentrically located intrauterine pregnancy from interstitial ectopic pregnancy? J. Obstet. Gynecol. Can. 39(8) (2017)627-634.
9. R. A. Parker 3<sup>rd</sup>, M. Yano, A. W. Tai, M. Friedman, V. R. Narra, C. O. Menias, MR imaging findings of ectopic pregnancy: a pictorial review, Radiographics 32 (5) (2012)1445-1460.
10. M. B. Rankin, B. S. Allison and E. K. Arleo, Angular pregnancy: a review of cases reported in the past 80 yrs, Gynecol. Case. Rev. 1 (2014) 105.
11. Mancino D, Carbone I, Ragucci V, Mazzarella A, Chiacchio G, Borrelli R, et al. Angular pregnancy at 6wk of gestation treated with minimally invasive surgery preceeded by systemic ana local medical therapy with methotrexate. Case report.Giornale italiano di obstetrician e gianecologia 2013; 35: 462-5.
12. Baldawa P S, Chaudhari H K. Angular ectopic pregnancy presenting as rupture of lateral wall of the uterus. J Hum Reprod Sci 2008; 1: 33-4.