

# Rudimentary Horn Pregnancy Misleading Abdominal Missed Abortion

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## Abstract:

*Pregnancy in a rudimentary horn is a very rare condition. It is responsible for severe complications and also a life threatening condition as it mostly terminates by rupture of pregnancy. This was a case of non communicating unruptured pregnancy which was misdiagnosed on 1<sup>st</sup> and 2<sup>nd</sup> transabdominal ultrasonography, progressing to 22 weeks gestation and ends in a missed abortion. A transvaginal ultrasonography revealed it as an abdominal pregnancy and on laparotomy confirmed diagnosis was non communicating rudimentary horn pregnancy. Pregnancy sac with foetus was removed intact and patient recovered without any complications. Gravid rudimentary horn may be misdiagnosed as abdominal pregnancy and are of interest in management.*

**Key words:** Rudimentary horn, missed abortion

## Introduction:

Pregnancy occurring in a malformed uterus is relatively rare.<sup>1</sup> Even more rare are those occurring in a rudimentary uterine horn. The frequency of a pregnancy in a rudimentary uterine horn is about one in 150000 pregnancy.<sup>2</sup> It is estimated that 600 to 700 rudimentary horn pregnancies have been reported in the world wide up to now.<sup>3</sup> It is associated with spontaneous abortion, preterm labor, intrauterine growth retardation intra abdominal hemorrhage and uterine ruptur.<sup>4</sup> In 70% of the pregnancies in a rudimentary horn, uterine ruptured occurs before 20 weeks of gestation and in a further 20% of the cases, it ruptures by the end of the second trimester<sup>5</sup> and hardly 10% of the cases goes to term.<sup>6</sup>

## Case Report:

A 20 years old lady, gravida-1 unbooked was presented in emergency department of Khulna Medical College Hospital with history of amenorrhea of 22 weeks with slight pervaginal bleeding for one month and also history of dilatation, evacuation & curettage 7 days back at Upazila Health Complex.

During pregnancy, she had irregular antenatal care. At her 15 weeks of gestation, a transvaginal ultra sonogram revealed a single viable intrauterine pregnancy. Her pregnancy period was unevent full unto 18 weeks of gestation. There after she developed slight pervaginal bleeding. For this she again

performed a transvaginal ultra sonogram at 21 weeks of gestation and report revealed missed abortion. So dilatation evacuation & curettage was tried after priming the cervix with misoprostrol and oxytocin infusion but failed. At last she presented to Gynecology department of KMCH, Khulna. An abdominal examination revealed a visible mass in left iliac fossae. The mass was about 11x10 cm whose margin was regular, surface was smooth & firm in consistency which was nontender & fix. Per vaginal examination revealed an enlarged uterus with tenderness on rocking the cervix. A mass was felt through the left lateral fornix which was nontender and separated from the uterus. Since TVS indicated complex mass which contained disorganized foetal parts with no cardiac activity and moderate free fluid in pelvic cavity, a clinical diagnosis of abdominal pregnancy was made. The physical examination revealed a body temperature of 37.2, blood pressure of 110/80 mmHg, and pulse 78/min, pre operative hemoglobin value was 9.4 gm/dl.

She was taken for laparotomy under general anesthesia. All aseptic precaution with pfannenstiel incision, abdomen was opened. After opening the peritoneal cavity – a large mass about 10x9 cm (Fig-1) which was connected to the lower part of the left border of the uterus. A fallopian tube and round ligament was attached to the upper end of the left side of the mass. There was dense adhesion among the mass, sigmoid colon and rectum and intestine which was carefully separated. The mass was resected from the uterus near to its attachment. Ovary was preserved on the affected side. The abdomen was closed after peritoneal lavage and ensuring homeostasis. One unit blood transfusion was given post operatively. After resection of the mass, a dead macerated foetus and placenta (Fig-2) were expelled out and diagnosis of pregnancy in non communicating rudimentary horn was confirmed. Post operative period was uneventful and was discharged 7 days post operatively in good health.

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**Fig-1:** Gravid Rudimentary horn connected to the lower border of the uterus



**Fig-2:** Bisected uterus with foetus connected to the cord & placenta

#### **Discussion:**

Rudimentary horn is a developmental anomaly of the uterus.<sup>7</sup> The prevalence of uterine anomalies in general population

is 5%.<sup>8</sup> Rudimentary horn is a rare uterine anomaly and a prevalence of unicornuate uterus with a rudimentary is even rarer i.e., 1: 100000.<sup>9</sup> A fibrous or fibro-muscular band usually connect the horns of the duct but 80- 90% of the cases there is no communication.<sup>10</sup>

Fusion defects of the Mullerian ducts are frequently combined with other anomalies of the genitourinary tract such as vaginal septum or renal agenesis and most commonly manifest themselves as gynecologic complains such as dysmenorrheal, dyspareunia endometriosis and sterility.<sup>11</sup> In this reported case, there was no renal or vaginal anomaly and no such complain but only non-communicating fibro-muscular band connect the horn of the duct.

The pregnancy in this non-communicating horn of the rudimentary uterus might have occurred only by Tran's peritoneal migration of the sperm or fertilization of the ovum from contra lateral side.<sup>12</sup> Corpus luteum of the pregnancy is usually on the same side of rudimentary horn in 90% of the cases.<sup>13</sup> However in our case it was very difficult to comment on the side of corpus luteum due to advanced pregnancy.

The life threatening complication is rupture of the uterus in second & third trimester.<sup>14</sup> The maternal mortality rate before the advent of ultrasound was as high as 47.6% Rupture of the horn is still common but no case of maternal death has been published since 1960<sup>1</sup>. Fate of the reported case was missed abortion due to decreased blood supply & defective endometrium.

Diagnosis of pregnancy in rudimentary horn is difficult, because the enlarging horn with a thinned myometrium can often obscure the adjacent anomalic structures. The sensitivity of the ultrasound examination for diagnosis has been reported to be as 26% and the sensitivity decreases as the pregnancy advances.<sup>15</sup> Tubal pregnancy, corneal pregnancy, extra uterine pregnancy in a bi cornuate uterus, and abdominal pregnancy are common sonographic misdiagnosis.<sup>16</sup> Difficulty in diagnosis during early pregnancy is common especially if it is anterior to the normal horn.<sup>16</sup> As ultrasound scanning is only 29% sensitive for diagnosing rudimentary horn pregnancy. So most are still diagnosed during surgery<sup>15</sup>.Diagnosis of our reported case was confirmed during laparotomy.

Criteria for early sonographic diagnosis of rudimentary horn pregnancy include pseudo pattern of an asymmetrical bicornuate uterus, absent continuity between cervical canal and the lumen of the pregnant horn and the presence of the myometrial tissue surrounding the gestational sac. Hypervascularization typical to the placenta accreata may support the diagnosis of rudimentary horn pregnancy.<sup>17, 18</sup>

MRI can be used for confirmation of diagnosis.<sup>19</sup> Our case was misdiagnosed with bicornuate uterus on ultrasound. Induction with PGE2 and high dose of oxytocin followed by dilatation, evacuation & curettage were failed. Failed induction has several reasons and one of them is obstructive Mullerian anomaly. There; in cases with failed induction attention to this entity is recommended.<sup>20, 21</sup>

Optimal management of rudimentary horn is removal of horn via laparotomy or laparoscopy. Medical treatment with methotrexate and its resection by elective laparoscopy is reported in cases during pregnancy.<sup>22</sup> Further pregnancies would then require extremely close follow up. The patient should be informed and aware of the incurred risks. Obstetrician caring for these patients should be aware of the serious risk of uterine rupture during pregnancy. A caesarean section prior to labor is strongly recommended.<sup>23</sup>

### Conclusion:

The rudimentary horn pregnancy is a life threatening condition. Improving the out come is based initially on the diagnosis and preconception care for the malformation. So every effort should be made to diagnosis this condition before pregnancy occurs. The rudimentary horn should be excised whenever diagnosed, in order to avoid a repeated potentially more severe incident.

**Conflict of Interest :** None

### References:

- Nahum GG. Rudimentary uterine horn pregnancy, the 20<sup>th</sup> century world wide experience of 588 cases. *J Repord Med* 2002; 47(2): 151-63
- Heinonem PK. Unicornuate uterus and rudimentary horn. *Fertil Steril* 1997; (68): 224-30.
- Gokhan Acmaz, Ahmet Tayyar, Gokalp Oner, Mehmet Tayyar, Gokalp Oner, Mehmet Tayyar. Live Birth in an unruptured communicating Rudimentary Horn Pregnancy AT 32 Weeks. *Medical Journal of Bakirkoy* 2008; 4: 170.
- Jen Woo Shen, Hai Joong Kem, Case of live birth in a non communicating rudimentary horn pregnancy. *J Obstet Gynaecol Res* 2005; 31(4): 329-31.
- Falemeh Bahadori, Seddigeh Borna, Tahere Behroozlak, Sogra Hoseeni, Halch Ayatollahi. Failed induction in second trimester due to pregnancy in man uncommunicated rudimentary horn. *Journal of Family and Reproductive Health* 2009; 3:95-97.
- M Jain. Advanced intact pregnancy in a non communicating rudimentary horn of the uterus. *Singapore Journal of Obstetrics and Gynecology* 2004; 35(2):116-120.
- Buttram VC, Gibbons E. Mullerian anomalies; A proposed classification (an analysis of case) *Fertil Steril* 1979; 32:40-6.
- Nahum GG. Uterine anomalies. How common are they, and what is this distribution among subty6pe? *Journal of Reproductive Medicine* 1998; 43: 877-87.
- Bhattacharya TK, Sengupta P. Rudimentary horn pregnancy. *Medical Journal Armed Force India* 2005; 61: 377-378.
- Goel P, Aggarwal A, Devi K, Takkar N, Saha PK, Huria A. Unicornuate uterine with non- communicating rudimentary horn- different clinical presentations. *Journal of Obstet Gynaecol India* 2005; 55(2): 155-158.
- Nagele F, Langle R, Stolzlechner J, Taschner R. Non-communicating rudimentary horn – Obstetrics and Gynaecological implication. *Acetate Obstet Gynaecol Scand* 1995; 74: 566-68.
- Nahum GG. Rudimentary uterine horn pregnancy: a case report on surviving twins delivered 8 days apart. *J Repord Med* 1997; 42: 525-32.
- O' heary JL, O'Heary JA. Rudimentary horn pregnancy. *Obstet Gynaecol* 1963; 22: 371-375.
- Panayotidis C, Abdel-Fallah M, Leggott M. Ruptured of rudimentary horn of a unicornuate uterus at 15 weeks gestation. *Journal of Obstet and Gynaecol* 2004; 24: 323-4.
- Jaya singh Y, Rane A, Stalewaksi H, Grover S. The presentation and early diagnosis of the rudimentary uterine horn. *Obstet Gynaecol* 2005; 105: 1456-67.
- Hamai Y, Fujii T, Iwasaki M, Muronosono E, Taketani Y. A case of pregnancy in a woman with cloacal dysgenesis and a rudimentary horn. *Human Reproduction* 1993; 12 1103-5.
- Taori K, Saha BK, Saha D, Kihadaria N, Jadhar V, Jawale R. Sonographic Diagnosis of uncomplicated First trimester pregnancy in Rudimentary Horn of a unicornuate uterus. *J Clin Ultrasound* m2008; 36: 45-7.
- Tsafirir A, Rojan sky N, Sela HY, Gomori JM, Nadjari M, Rudimentary Horn Pregnancy: First Trimester prerupture sonographic diagnosis and confirmation by magnetic resonance imaging. *J Ultrasound Med* 2005; 24: 219-23.
- Ozeren S, Cliskan E, Corokei A, Ozkan S, Demirci A. Magnetic Resonance Imaging and Angiography for the prerupture diagnosis of rudimentary uterine horn pregnancy. *Acta Radiol* 2004; 45: 8781.
- Letterie GS, Murray JE, Samlaska CP. Failure of prostaglandin induction in an obstructive Mullerian abnormality. *AmJ Obstet Gynaecol* 1993; 169: 207-9.
- Kirschner R, Lofstrand T, Mark J. Pregnancy in a non-communicating rudimentary uterine horn. A reason for failed therapeutic second trimester abortion. *Acta Obstet Gynaecol Scand* 1979; 58: 499-501.
- Edelman AB, Jensen JT, Lee DY, Nichols MD. Successful Medical abortion of a pregnancy within a non-communicating rudimentary uterine horn. *AmJ Obstet Gynaecol* 2003; 189-7.
- D Dicker, S Nitke. A Shoenfeld, B Fish, I Meizner, Z Ben Rafael. Laparoscopic management of rudimentary horn pregnancy. *Hum Reprod* 1998; 13: 2643-44.