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Rare case of secondary abdominal pregnancy with incidental Meckel's diverticulum

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Abstract : Background: *Mullerian duct anomalies in female result from failure of complete development of one duct and incomplete fusion of other duct during embryonic life. Bicornuate uterus with rudimentary horn (BURH) is the rarest uterine anomaly. Pregnancy in rudimentary horn is even rarer, i.e. 1:1,40,000 pregnancies.**Case:** A case of 21 years Primigravida presented with pain abdomen at 21 weeks with ultrasound diagnosis of secondary abdominal pregnancy taken up for exploratory laparotomy. Laparotomy revealed ruptured rudimentary horn pregnancy with fetus in the abdominal cavity and an incidental finding of Meckel's diverticulum with placenta adhered to it. Excision of rudimentary horn was done which was non-communicating. **Conclusion:** A high suspicion of abdominal pregnancy is to be kept in obstetrician mind because of its various presentation. Early diagnosis and management is required in this life-threatening condition. A combine approach of clinical as well as diagnostic technique is indicated.*

Keywords- *Abdominal pregnancy, Bicornuate uterus, Laparotomy, Meckel's diverticulum*

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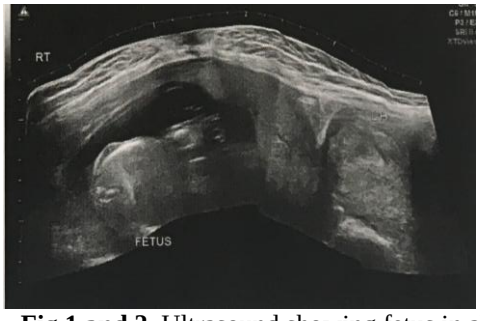
I. Introduction

Mullerian duct anomalies in female are a result of failure of complete development of one duct or incomplete fusion of the other duct during embryonic life. Incidence of mullerian duct anomalies in general population is found to be 3.4 %. Bicornuate uterus with rudimentary horn is usually non-communicating in 83 % cases. The Incidence of bicornuate uterus with rudimentary horn is around 1:1,00,000 and pregnancy in rudimentary horn is even more rare I.e. 1:1,40,000 pregnancies. This case is presented in view of the rarity of the condition and necessity of keeping this entity in differential diagnosis of acute abdomen in the second trimester of pregnancy.

II. Case Description

A 21-year-old primigravida presented with complaints of persistent pain abdomen for past 21 days. Pain was intermittent, mild, restricted to right side of abdomen, not associated with vomiting and there were no bowel and urinary complaints. She had complaints of breathlessness for past 4 days. She was diagnosed to have anemia with hemoglobin of 8.2 g/dl, hence transfused with 2 units of packed cell. Patient had visited private hospital with similar complaints 1 month back where ultrasonography was done which showed ? bicornuate uterus with single live fetus. On admission, her systemic examination was within normal limits. On abdominal examination, uterus was corresponding to 20 weeks size, which was palpable more on right side with minimal tenderness. On per vaginal examination, os was closed and uterus was not felt separately. Clinically there was suspicion of secondary abdominal pregnancy which was confirmed by Ultrasonography and MRI, which showed bicornuate uterus with right side intra-abdominal pregnancy.



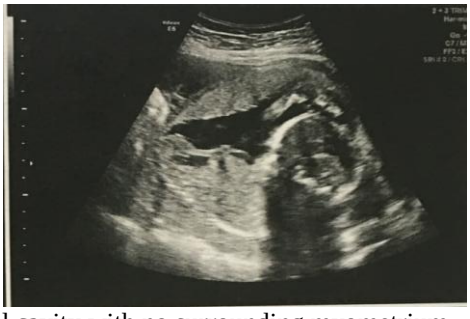


Fig 1 and 2. Ultrasound showing fetus in abdominal cavity with no surrounding myometrium

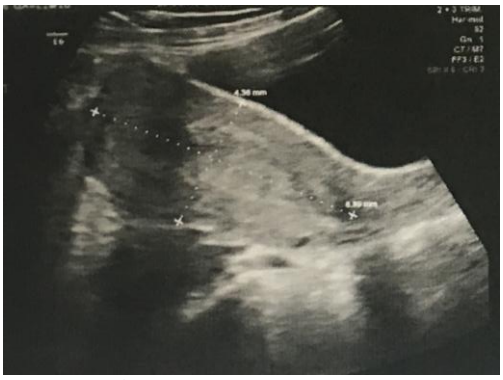


Fig 3. Empty uterine cavity

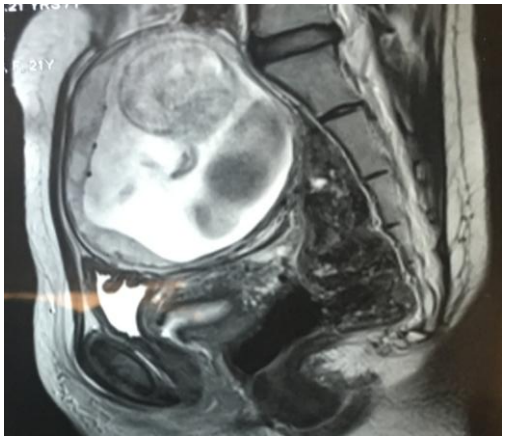


Fig 4. MRI showing empty uterine cavity with fetus in the abdominal cavity with no surrounding myometrium

Hence the high risks associated with continuing the pregnancy were explained and the patient was advised to terminate her pregnancy.Patient was planned for exploratory laparatomy. Intra- operatively, gestational sac was in peritoneal cavity which was ruptured. Female baby weighing 475 grams was removed. Baby cried but succumbed immediately.

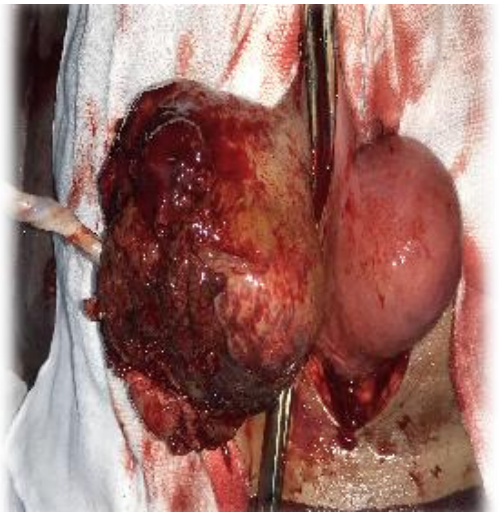


Fig. 5. Bicornuate uterus with pregnancy in rudimentary horn

Placenta with membranes along with right ruptured rudimentary horn was removed and uterine rent was stitched with 1-0 vicryl. But still part of placenta was found adherent to colon and omentum. Hence, surgeons were called for help and adhesions were released using sharp dissection following which there was an incidental finding of Meckel's diverticulum with broad and short base 40 cms away from ileo-caecal junction. Patient received 1 packed red cell intraoperatively. Posoperative period was uneventful. Histopathology confirmed ruptured rudimentary horn pregnancy. She was discharged on the 8th postoperative day.

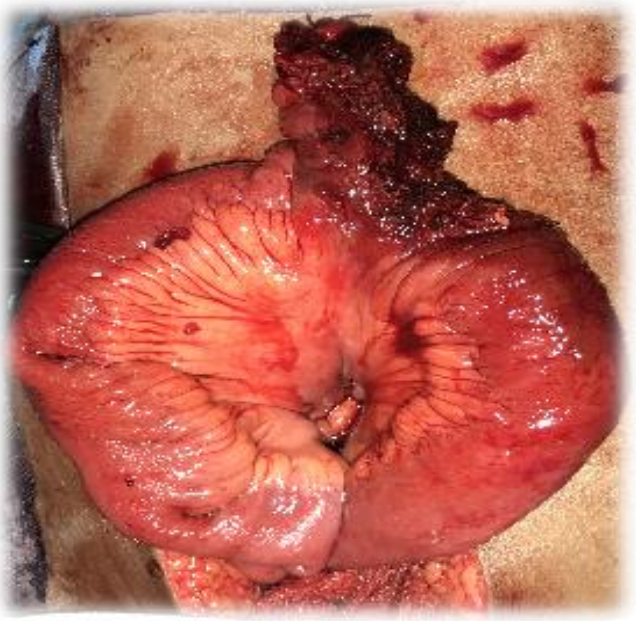


Fig. 6. Meckel's Diverticulum

III. Discussion

Pregnancy in a non-communicating rudimentary horn is a rare form of ectopic gestation. Bicornuate uterus with rudimentary horn is usually associated with miscellaneous other obstetrical complications including miscarriage, cervical incompetence, ectopic pregnancy, uterine rupture, preterm labour, malpresentations, intrauterine growth retardation, and caesarean delivery. Conception in rudimentary horn arises from a small communication with the uterine cavity (communicating) or by transperitoneal migration of the fertilised ovum via the contralateral side (non-communicating). The zygote then enters the tube of rudimentary horn [1]. The most significant threat of a BURH pregnancy is the risk of rupture (usually in the second trimester) because of the poorly developed musculature and this commonly presents with abdominal pain which may occur before or after rupture[2]. Variable thickness of rudimentary horn musculature, dysfunctional endometrium and poor distensibility of the myometrium lead to rupture of the rudimentary horn. The pregnancy usually overcomes the first trimester period uneventfully as the rudimentary horn is thicker than the fallopian tube and 80 - 90% of the ruptures occur in the second trimester. The most common presentation of pregnancy in rudimentary horn is abdominal pain. The pain may occur after or before rupture. Clinical history and physical examination alone may be insufficient to make a preoperative diagnosis. Sonography is the most effective method for diagnosing an abdominal pregnancy. MRI is an emerging important, complementary imaging modality that helps not only to confirm the diagnosis but also to delineate the precise anatomical relationship between the fetus and various maternal abdominal organs.

The management of abdominal pregnancy depends on fetal viability, presence of fetal congenital abnormalities, fetal gestational age, maternal complications, placental location and adherence. Usually surgical intervention is necessary regardless of fetal viability. The management of the placenta is still under debate. Total removal is preferable with ligation of blood supply or preoperative embolization. Partial removal due to adherence may result in massive hemorrhage and shock.[3] In cases of adherence the placenta can be left in situ, ligating the cord as close to the placenta as possible. The placenta usually ceases to function after 4 months.[4] Postoperative angiographic embolization of feeder vessels is possible. Some authors advocate preoperative systemic methotrexate in the management of abdominal pregnancy.[5]

IV. Conclusion

The presentation of a pregnant woman with an unusual clinical picture, especially with persistent or recurrent abdominal pain, should alert the obstetrician to the possibility of abdominal pregnancy. Expertly performed and interpreted ultrasound along with confirmation by MRI may be the definitive diagnosic technique. It is important to consider this diagnosis in such patients and, once discovered, to initiate prompt treatment.

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