A Study of Pregnancy in a Non-Communicating Rudimentary Horn of the Uterus

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ABSTRACT

BACKGROUND
Pregnancy in a non-communicating horn of the uterus is a very rare entity. Incidentally, we had 11 cases in the last 6 years presenting in various ways. In literature, cases presented on pregnancy in a non-communicating horn are not many. Hence we are analysing our cases. The objectives of our study were to diagnose and manage such cases at the earliest and sharing our experience to help for its early diagnosis and further management.

METHODS
Records of women diagnosed with ectopic pregnancy in the rudimentary horn, during the last 6 years, were reviewed for their diagnostic difficulties and the associated morbidity.

RESULTS
Cases diagnosed before laparotomy were 3, and cases diagnosed after laparotomy were 8. Amongst 8 cases, 2 were intact and the other 6 had already ruptured. Laparotomy with excision of rudimentary horn and salpingectomy was done in all cases.

CONCLUSIONS
Suspicion is the main tool for diagnosis. Its suspicion and clinical finding along with imaging technology are very important for its early diagnosis and management.

KEY WORDS
Acute Abdomen, Clinical Scoring System, Modified Alvarado Scoring System
Pregnancy in a non-communicating horn of the uterus is a very rare entity. Incidentally, we had 11 cases in the last 6 years presenting in various ways.

Early diagnosis and management of such cases is a challenge. We are sharing our experience to help with its early diagnosis and further management.

A non-communicating horn of the uterus is a rare type of Mullerian duct malformation which results from defective fusion or defective absorption during embryonic life. 1st case was described by Manricean in 1661.[3] A lot of development has taken place in imaging technology and also the clinical assessment, which now helps to manage this condition promptly and reduce the mortality associated with it. 1st unruptured case was diagnosed on ultrasound (USG) in 1983. With the development of 3D sonography, 4D imaging and magnetic resonance imaging (MRI) the early detection of the rudimentary horn is possible. We came across 11 such cases in the last 6 years in 2 of the institutes. It is found approximately in 1:100000 to 1:140000 pregnancies.[4] 75% of the unicornuate uterus have a rudimentary horn, hence, we need to evaluate further whenever a unicornuate uterus is diagnosed.[5] It is possible now with the help of proper detailed history from the patient and advanced imaging technology.

Records of women diagnosed with ectopic pregnancy in the rudimentary horn, during the last 6 years, were reviewed for their diagnostic difficulties and the associated morbidities.

In literature, cases presenting pregnancy in a non-communicating horn are very few. Hence, we are analysing our cases. Cases diagnosed before laparotomy were 3, and those diagnosed after laparotomy were 8. Amongst 8 cases, 2 were intact and the other 6 had already ruptured. Laparotomy with excision of rudimentary horn and salpingectomy were done in all cases.

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### MANAGEMENT OF CASES

In all the above cases, laparoscopy or laparotomy with excision of the non-communicating rudimentary horn of the uterus along with the ipsilateral fallopian tube was the definitive management. Adequate blood and resuscitative measures were kept ready. One of the patients needed a massive blood transfusion as the patient was in shock when she arrived in the emergency ward. Fortunately, there was no mortality and morbidity reported.

### HOW TO DIAGNOSE?

In patients with known uterine anomalies, diagnosis can be done earlier

- **Hysterosalpingogram (HSG).**

### PRESENTATION OF CASES

We have come across 11 such cases in the last 6 years. All the 11 cases were studied in detail and proper analysis was made considering the history, signs, symptoms, presentation to the emergency ward and the treatment given. Amongst these 11 cases, the range of period of gestation varied from 9 weeks to 22 weeks. Patients presented with varying symptoms like pain in the abdomen, abdominal tenderness, vaginal spotting, shock, etc. Of the 11 cases studied, 3 cases were diagnosed in the 1st trimester and the remaining 8 cases were diagnosed in the 2nd trimester. Around 4 cases were diagnosed as ruptured ectopic pregnancies due to similar presenting complaints and it was only after the laparotomy that they were diagnosed as ruptured rudimentary horn pregnancy. Out of 11 cases, diagnosed on USG as rudimentary horn pregnancies were 3 cases and the rest of the 8 cases were diagnosed only after laparotomy.

The sensitivity of USG remains at 27% as stated by The International Society of Ultrasound in Obstetrics and Gynaecology (ISUOG). 3 cases were diagnosed before rupture and one was found to be on the verge of rupture while the remaining 7 were already ruptured on laparotomy. We had to perform emergency laparotomy in 8 of the cases as patients were deteriorating and 6 of the cases needed blood transfusion. Ultimately all the cases underwent laparotomy and fortunately, there was no maternal mortality in all of the 11 patients.
In Obstetric Cases
- USG (sensitivity is 26 %): ISUOG vol.30 issue 5
- Computed tomography (CT) scan and Magnetic Resonance Imaging (MRI) are also useful in the diagnosis.
- Clinical diagnosis with a pelvic (PV) exam will show a uterus of normal size deviated to one side with contralateral palpable pelvic adnexa.

Complications
An early diagnosis is an important tool for the management of these cases. The most common complication is the rupture of the non-communicating horn and intraperitoneal haemorrhage. Maternal mortality in pregnancy of non-communicating horn of the uterus has now come down to 0.5 % [ejogy].[4]

In case of the non-communicating horn of the uterus, an evaluation of the renal system should also be done as there is a high incidence of associated urological anomalies like one absent kidney, pelvic kidney, duplication, etc.[5] If it remains unruptured there can be, spontaneous abortion, preterm labour, intrauterine growth retardation, intrauterine foetal demise, or laparotomy. Other complications like infertility, endometriosis, hematometra, intraperitoneal bleeding, etc. are also associated.

Differential Diagnosis
- Acute pelvic inflammatory disease (PID)
- Acute infection
- Follicular haemorrhage
- Acute abdomen
- Ovarian torsion
- Other ectopic pregnancies
- Endometriosis
- Traumatic abdominal bleeding

Discussion of Management
Non communicating rudimentary horn of the uterus is susceptible to many gynaecological and obstetric complications which can occur at any stage of reproductive life. Many of these cases remain undiagnosed. In obstetrics, it mainly presents as a ruptured non-communicating horn with varying degrees of intraperitoneal haemorrhage. Rupture of the rudimentary horn usually occurs in 1st or 2nd trimester.[6] This depends upon the variable thickness of the rudimentary horn musculature, dysfunctional endometrium and poor distensibility of the myometrium. In some cases, pregnancy ends up in missed abortion or intrauterine foetal death due to decreased blood supply and defective endometrium. It also increases maternal mortality and morbidity. This also proves the transperitoneal migration theory of the sperm / ova. Its suspicion and clinical findings with imaging technology are very important for its early diagnosis and management. Hence, every effort should be made to diagnose this condition before pregnancy or before the rupture of the uterus.

Suspicion is the Main Tool for Diagnosis!
- The rudimentary horn should be excised whenever diagnosed.
- Excision of rudimentary horn along with ipsilateral salpingectomy can also be considered.
REFERENCES


