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Original Research Article

A Case Series on Non Communicating Rudimentary Horn of Unicornuate Uterus - Presentations and Outcomes

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Abstract:

Congenital Uterine anomalies result from abnormalities in development, fusion or resorption of mullerian ducts during fetal life and are present in around 1- 10% unselected population, 2-8% of infertile females and 5-30% in women with history of miscarriages. The current study is a case series comprising of 3 cases each with a different presentation and outcome of a non-communicating rudimentary horn of unicornuate uterus. Since the presentation of rudimentary horn of unicornuate uterus can vary from as mild as vague pain abdomen to as life threatening as a ruptured rudimentary horn ectopic pregnancy. The current study emphasizes on the role of imaging and high clinical suspicion in early diagnosis of these anomalies so that life threatening complications can be prevented, the quality of life of the woman can be improved, at the same time also pointing out the association of urinary tract anomalies and endometriosis in these patients.

Keywords: Unicornuate Uterus, Congenital Uterine anomalies, mullerian ducts anomalies.

Introduction

Congenital uterine anomalies results from abnormal formation, fusion or resorption of mullerian ducts during fetal life and are present in 1-10% of the unselected population 2-8% of infertile woman and 5-30% of women with history of miscarriages.

According to American fertility society unicornuate uterus is classified as follows:

- Class 2 A – Rudimentary horn with cavity communicating with unicornuate uterus.
- Class 2B - Rudimentary horn with non-communicating cavity.
- Class 2C - without a cavity
- Class 2D - Unicornuate uterus without rudimentary horn (1,2).

Incidence of rudimentary horn is 0-4% (3-5). Clinical presentations may vary from mild menstrual symptoms to poor reproductive outcome. A wide spectrum of complications is associated with rudimentary horn such as infertility, hematometra, hematosalpinx, endometriosis, uterine tract abnormalities, rudimentary horn ectopic pregnancy etc.

We hereby report a series of 3 cases of unicornuate uterus with rudimentary horn without different clinical presentation and outcome.

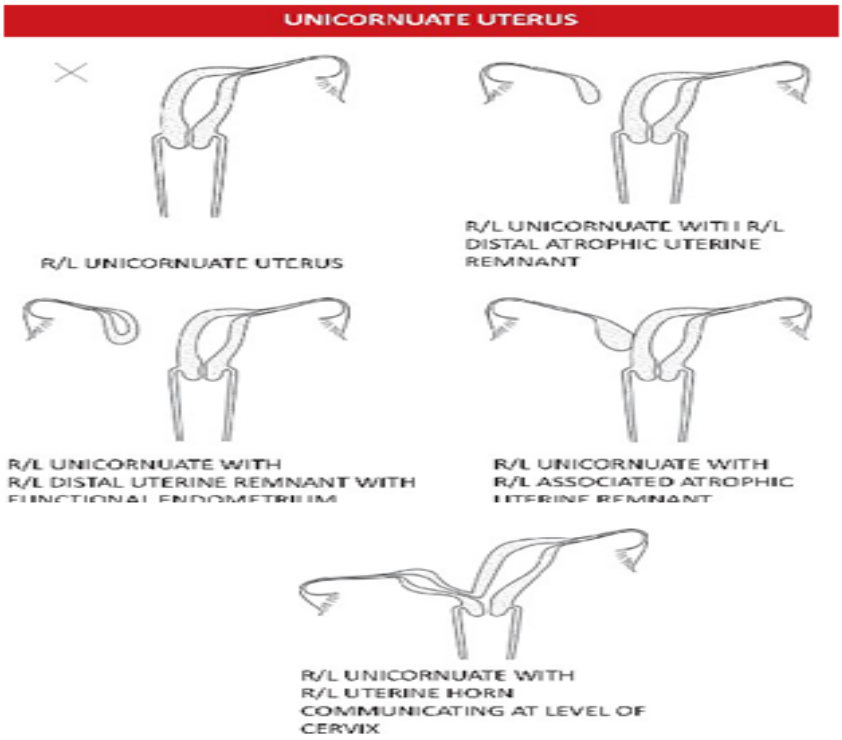

Figure 1:

Case - 1

A 23 year female nulligravida presented with chief complaint of prolonged menses and irregular cycles since last 3-4 years, continuous vague pain in lower abdomen with cyclinical excerbation, associated with nausea and vomitting since 1-1.5 months. Her LMP was 9 September, 2023, menarche attained at 13 years and had been married for 2 years. No history of contraceptive use in past, Normal bladder and bowel habits. No significant medical or surgical history.

On Examination:

Per abdomen - Soft; tenderness over left iliac fosa, Per Vaginum - Well defined left sided, solid cystic mass of around size 6x6 cm felt, right fornices free and non-tender.

Imaging:

Ultrasound abdomen showed thick walled cystic mass 46x40 mm seen adjacent to left ovary suggestive of ? Accessory uterine horn with fluid collection/ ? endometrioma of right ovary. MRI was further done which was suggestive of unicornuate uterus with non-communicating horn, hematometra and hematosalpinx.

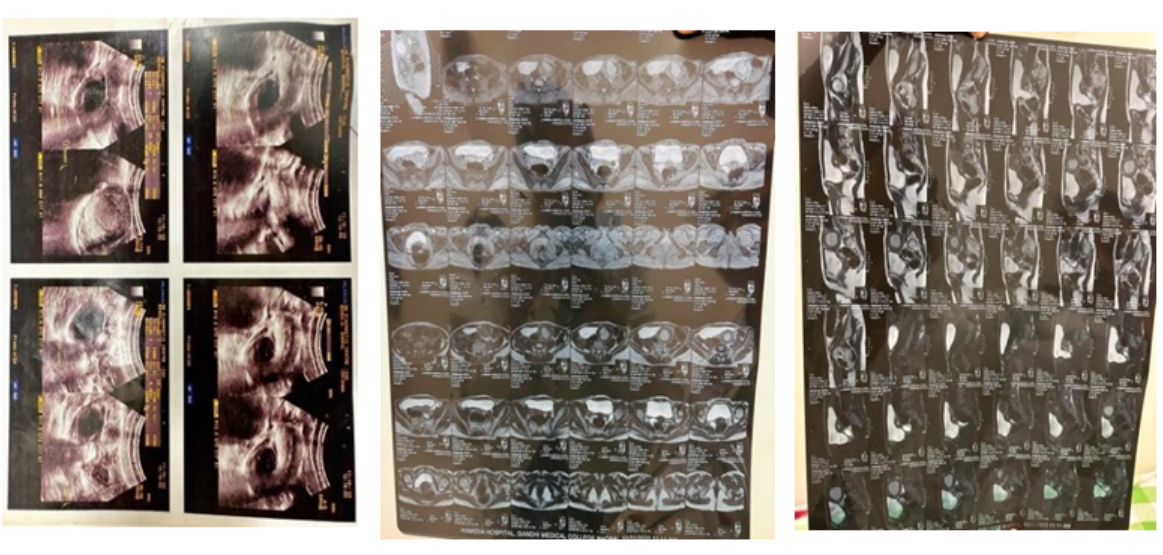

Figure 2:

Decision of laprotomy was taken and laprotomy followed by resection of rudimentary horn followed by cystectomy endometrioma was done. Of Intraoperative Unicornuate with communicating uterus non horn of left side, enlarged to 6x6 cm was visualized with size of uterus 2x4cm. Left horn was completely removed and Left sided salpingectomy with cystectomy was done for left ovarian endometrioma. Patient was discharged with stable condition postoperatively.

Case - 1

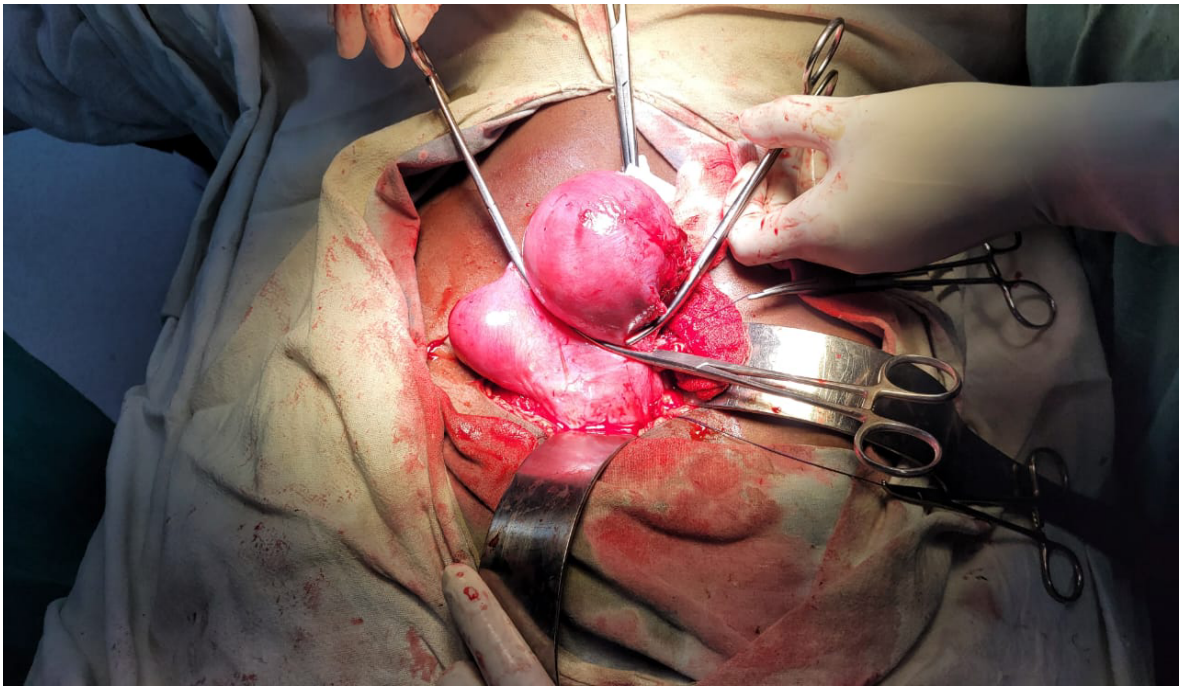

Figure 3:

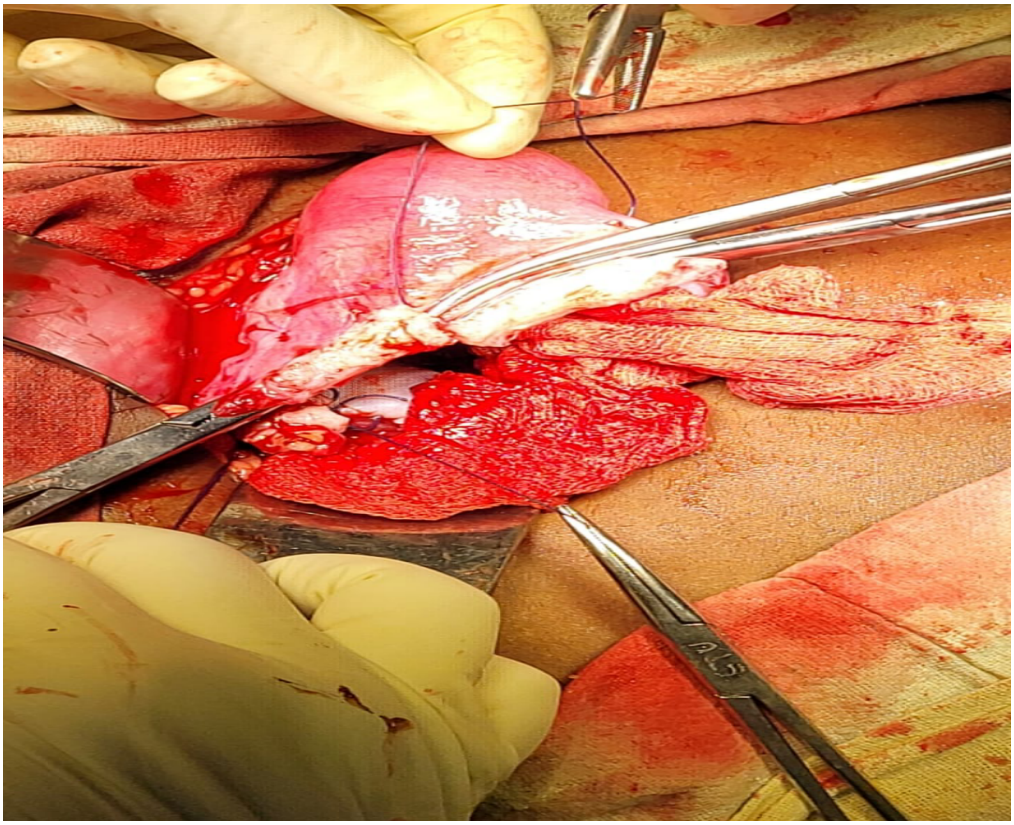

Figure 4:

Case- 2

A 22 year old G3P1L1A1 female of 14^{+1} weeks ammenorrhea presented to the emergency of department of obstetrics and gynaecology with complaint of abdominal pain and breathlessness since 6 hours and was diagnosed as G3P1L1A1 14^{+1} weeks pregnancy with previous 1 LSCS in shock with very severe anemia.

Culdocentesis was done and it was positive. Decision of emergency laparotomy was taken and patient underwent the procedure. Intraoperatively patient was found to have ruptured right rudimentary horn ectopic pregnancy. Around 2000 cc hemoperitonium was removed and a male abortus of 100gm was found inside peritoneal cavity.

Resection of right ruptured rudimentary horn was done along with right sided salpingectomy. She was transfused 4 unit PRC and post-operative recovery was good. She was later investigated for urinary tract anomalies which were found absent.

She was discharged in stable condition on post-operative day 8.

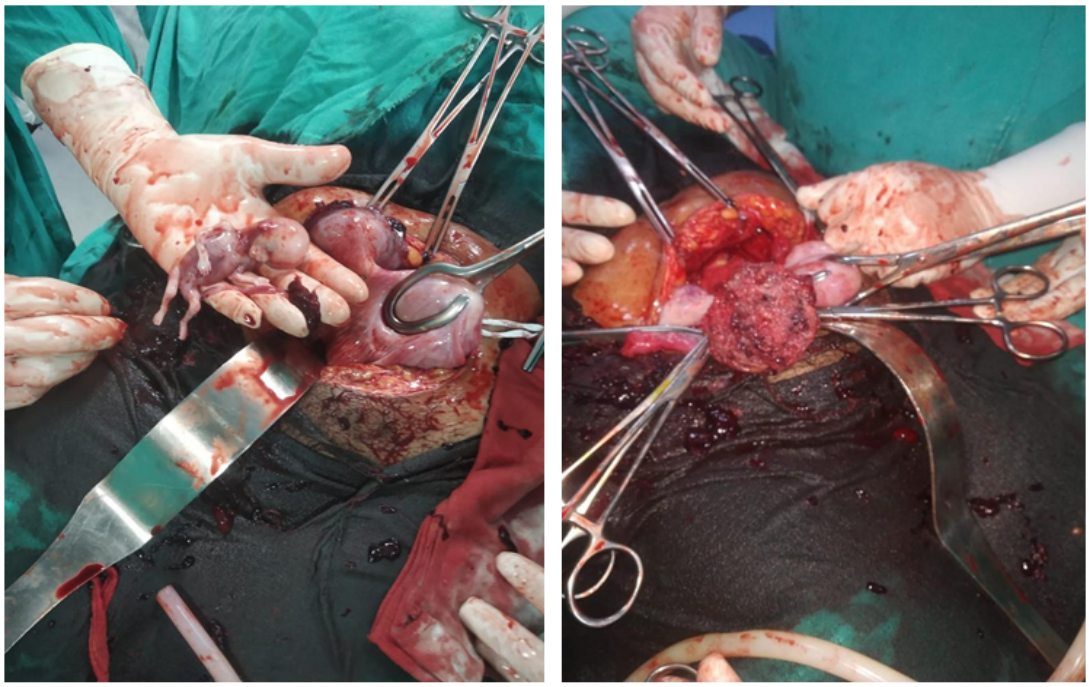

Figure 5:

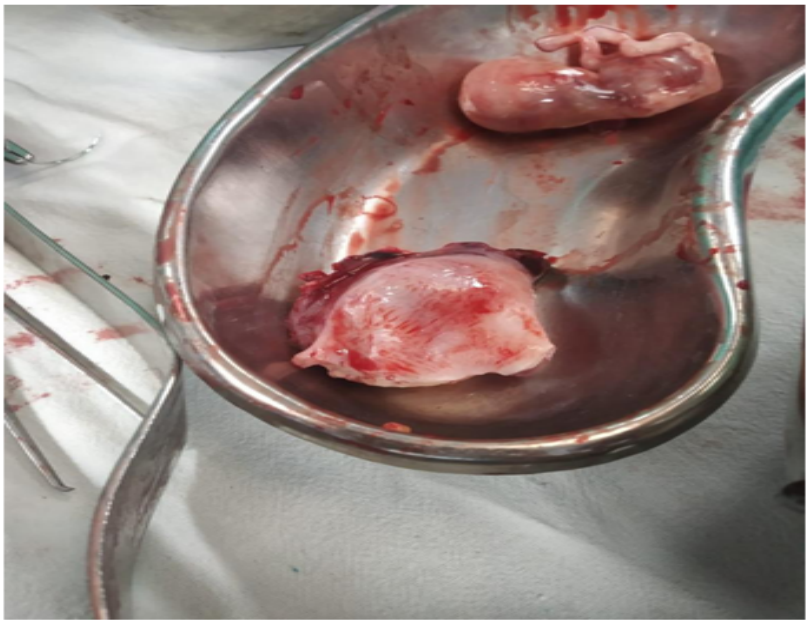

Figure 6:

Case- 3: A 14 year old nulligravida unmarried female presented to obstetrics and gynaecology OPD with the chief complaint of pain in lower abdomen since last three months which was non-cyclical and vague in nature, not radiating elsewhere. Her LMP was 03.11.2023 and age at menarche was 12 year. There was no other significant medical or surgical history. Bladder and bowel habits were normal.

On Examination

Per abdomen - There was tenderness in left lumbar region; cystic mass of 8x4 cm was palapable in the same region. An ultrasound was done which revealed a thick walled cystic lesion 98x41 mm in left adenexa and left kidney wasn't seen in left renal fossa suggestive of? Absent/ atrophic/ ectopic kidney.

This was followed with an MRI pelvis which revealed a) unicornuate uterus (3x3x6 cm) wih a non-communicating rudimentary horn size 4x9x5 cm with hematometra and hematosalpinx.

b) Empty left renal fossa suggestive of? Ectopic/ Atrophic/ Contracted kidney.

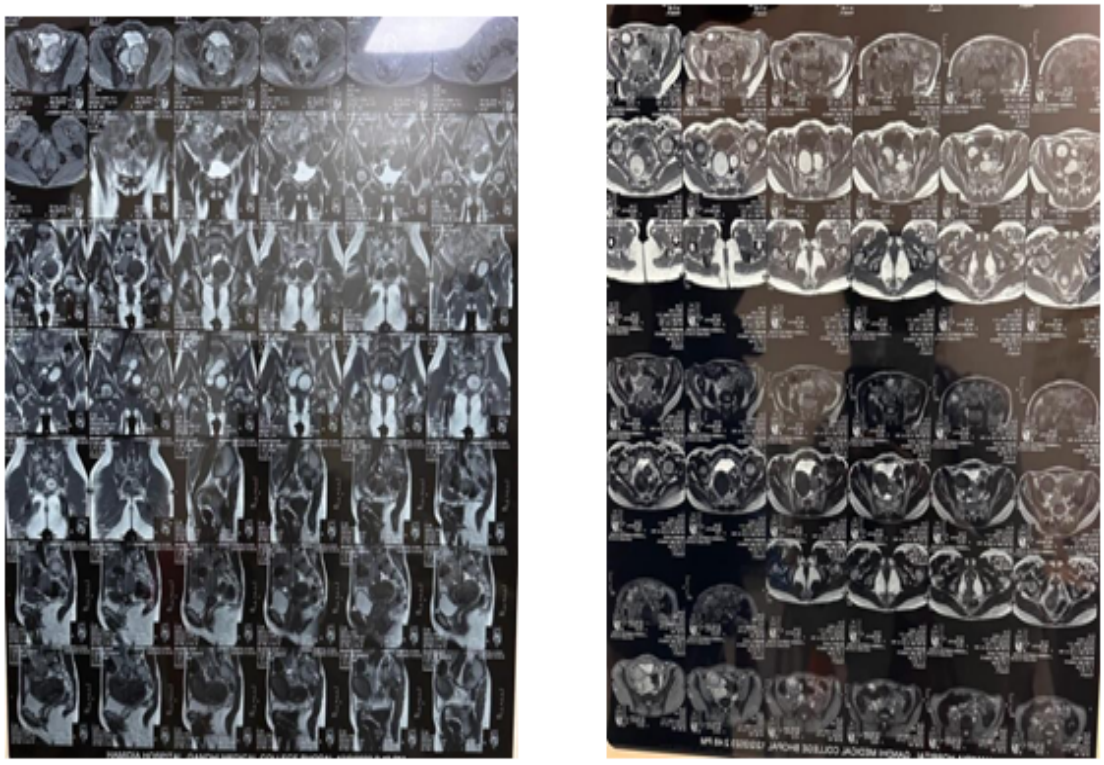

Figure 7:

Patient underwent laparotomy followed by resection of non-communicating horn of unicornuate uterus with left sided salpingectomy and cystectomy for left sided endometrioma. Intraoperatively

1. Left side non communicating horn of unicornuate uterus of size 9x5x4 cm with left sided fallopian tube was removed.
2. Chocolate cysts and hematosalpinx present on left side was removed.
3. A small part of rudimentary horn could not be respected and endometrium of the unresected part of the rudimentary horn was excised and cavity was obliterated. Hemostasis was achieved.
4. Patient was discharged in stable condition on post op day 9.

Case – 3

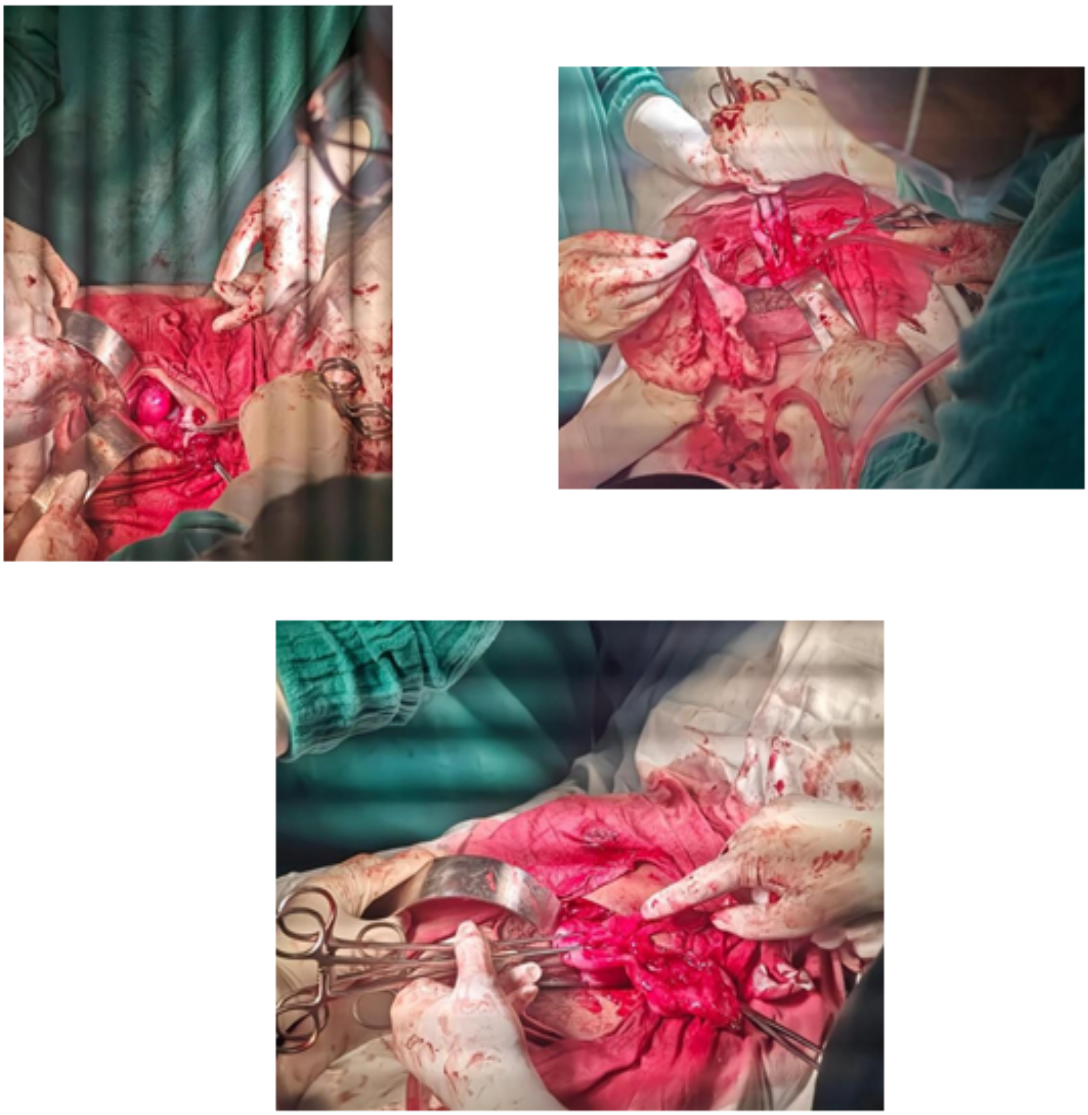

Figure 8:

Discussion:

The various mullerian anomalies present themselves in diverse forms and in different phases of a woman's life. A careful history taking is always the first step and a thorough clinical examination plays a fundamental role for any decision about the best diagnostic methods and choice of the best treatment.

The two main classifications used currently, that of AFS-ASRM (1) and of ESHRE/ESGE (6), include majority of cases although there are a few isolated cases of mullerian malformations that do not fit into any of the classifications.

Women with more impacting symptoms such as primary amenorrhea, incapacity for vaginal coitus, pelvic pain, due to obstruction of menstrual flow are diagnosed earlier as they seek assistance earlier. However women with problems related to reproduction such as recurrent pregnancy loss, premature births, rudimentary horn ectopic pregnancies, infertility etc. are diagnosed later when investigated for these symptoms.

Diagnosis through imaging is indispensable. First investigation carried out usually is a 2-D ultrasound whereas MRI is considered as the gold standard. The clinical presentation and treatment for mullerian malformations are directly related to the anatomy of the defect. Malformations that obstruct the menstrual flow should be treated rapidly doing a surgical procedure suitable to the respective case as it might lead to formation of huge hematometras and hematosalpinx and might present as acute abdomen. Patients with vaginal agenesis may undergo vaginoplasty and vaginal dilatation through diverse techniques. Psychological support

is extremely important and the procedures should only be done after proper counselling of the patient and family regarding all possible treatment options and impact on future reproductive outcome.

One extremely and life threatening complication of the mullerian anomalies is ectopic pregnancy in the rudimentary horn of unicornoid uterus. More commonly it occurs in the cases where rudimentary horn is communicating with the uterine cavity But very rarely it can also occurs in non-communicating rudimentary horn through transperitoneal migration of the ovum. The incidence of rudimentary horn pregnancy is very rare and accounts for 1:76000-1:160000 pregnancies. [7]

The timing of rupture varies from 5-35 weeks of gestation depending on horn musculature and its ability to hypertrophy and dilate. 70-90% of the ruptures occur between 10-20th week of gestation without an early detection, maternal mortality rates can be as high as 88% due to rupture. Hence early diagnosis however is challenging but is essential to improve patient outcome.

Emphasis on early trimester scans may play a vital role but most of the cases remained undiagnosed and present as an emergency. Sensitivity of ultrasonography decreases as the period of gestation advances.

Strategy of management is surgical removal of rudimentary horn even in unruptured cases. In emergency situation complication by rupture, resection of rudimentary horn with epsilateral fallopian tube is not only therapeutic but also preventive for future ectopic pregnancy.

Due to frequent association between mullerian and urinary tract anomalies the finding of either one should lead to the suspicion of the other. Renal anomalies are found in around 36% of cases. Hence it is recommended to further assess the women for these.

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