Case Report

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Ruptured Ectopic Pregnancy in Rudimentary Horn of Unicornuate Uterus

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Abstract

Failure of fusion of one of the mullerian ducts with partial fusion with the opposite side results in the formation of a rudimentary horn with unicornuate uterus. If a pregnancy occurs in a rudimentary horn, result is usually a rupture either in first or second trimester and it is usually a life threatening condition. The phenomenon is quite a rare entity and there are very few reported cases.

This specific instance is an example of a case in which a pregnancy of 16 weeks occurred in the rudimentary horn of a unicornuate uterus, resulting in a rupture.

Keywords: Ruptured Ectopic Pregnancy; Rudimentary Horn; Unicornuate Uterus.

Introduction

Failure of fusion of one of the mullerian ducts with partial fusion with the opposite side results in the formation of a rudimentary horn with unicornuate uterus. Once a pregnancy occurs in the rudimentary horn, it is a very rare condition and results in rupture either in the first or second trimester. Buthan and Gibbon were the pioneers who classified Mullerian anomalies in 1979 and which was further modified in 1988 by the American Society and Reproductive Medicine. Unilateral hypoplasia or agenesis is a type 2 classification of unicornuate uterus and it can be again subdivided into non communicating, communicating, no horn and no cavity [1]. The rate of uterine congenital abnormalities in the normal population due to Mullerian defects is 3.2%. Additionally, of these Mullerian abnormalities, 2.4%-13% consists of a unicornuate uterus [2]. Non communicating rudimentary horns accounts for 72-85% of cases [3]. Studies have found a relationship between women who have a unicornuate uterus with a higher prevalence of infertility, endometriosis, dysmenorrhoea, hematometra, urinary tract anomalies, abortions and preterm deliveries.

A very critical situation during pregnancy can be a sudden rupture and could potentially put the mother's life at risk.

Case

Mrs. XX presented to the emergency department with the history of pain abdomen and bleeding per vagina for 2 days with history of amenorrhoea for four months. On examination, her pulse was 120 /min, BP 80/60 mmHg and there was severe pallor. Per abdominal examination revealed distension with guarding and tenderness in the lower abdomen. On per vaginal examination uterus was just bulky and fornicial tenderness was felt. Emergency USG was done which showed massive hemoperitoneum with a 16 weeks pregnancy in the adnexae. Patient was immediately put for emergency laparoscopic exploration.

On laparoscopy, there was a 16 weeks fetus in the abdominal cavity along with

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Fig. 1: Rudimentary horn along with placenta

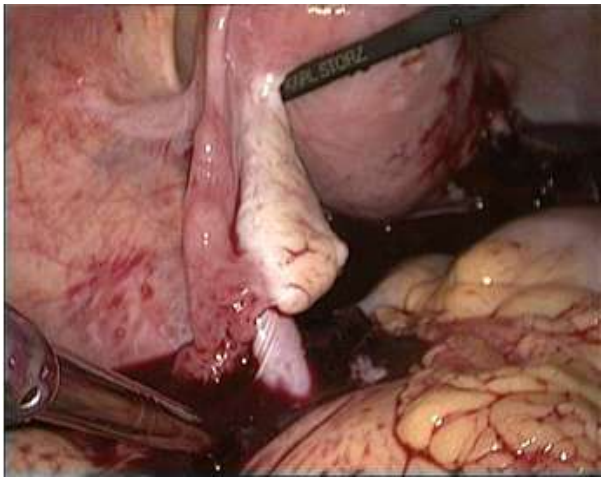

Fig. 2: Normal tube and ovary on the opposite side

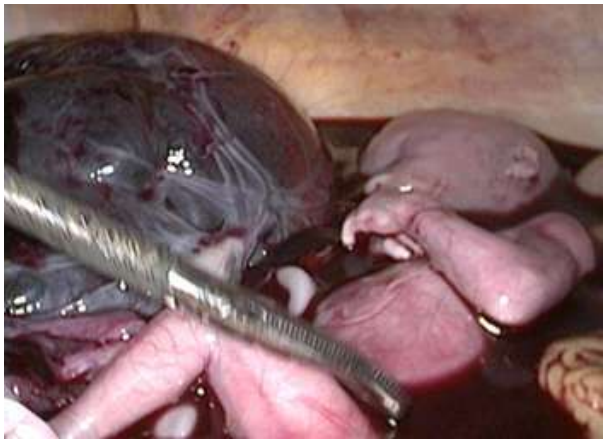

Fig. 3: 16 weeks fetus in peritoneal cavity with hemoperitoneum

the placenta with large hemoperitoneum. Site of rupture was the rudimentary non communicating horn. Laparoscopic excision of the horn was done and specimen of placenta and fetus was retrieved via mini laparotomy.

On admission Hb was 4gm%. Intra operatively 3 units of blood was transfused. The patient recovered completely with an uneventful post operative period and she went home on the 5th post operative day.

Discussion

Failure of fusion of one of the mullerian ducts with partial fusion with the opposite side results in the formation of a rudimentary horn with unicornuate uterus. This situation occurs in about 0.001% to 0.000714% of pregnancies [3]. Transperitoneal migration of the spermatozoa or the fertilized ova results in pregnancy in a rudimentary horn [4].

In 1669 Mauriceau first reported how a uterine rupture can be possibly linked with a rudimentary horn [5]. The horn musculature and its ability for hypertrophy and dilatation determines the time of rupture and can vary between 5 to 35 weeks of gestation. Usually around 70 to 90 percent of rupture occurs before 20 weeks and is life threatening [6]. Haemorrhage is very severe in such cases as the wall of the uterus is very thick and vascular [7]. The rupture of a rudimentary horn, as described by Kadan and Roman, poses as an acute emergency situation which can put one's life at risk during early pregnancy. Diagnosis of this fatal condition may possibly be quite a challenge in early pregnancy when there are no signs or symptoms present. Ultrasound is an extremely useful tool in diagnosing such a condition as described by Fedal et al. [8].

Gold standard treatment is a surgical removal of the rudimentary horn [9]. Excision and removal of a small rudimentary horn through the laparoscopic port suprapubically has been reported by Dicker et al. [10]. Pregnancy of a 5*5cm rudimentary horn was removed laparoscopically by You et al. [11]. Once diagnosis is complete, it is recommended for the patient to undergo immediate surgical excision even in unruptured cases [12]. Additionally prior to conception, surgical removal is recommended to prevent acute complications. Instances of third trimester pregnancy resulting in live birth following caesarean section has also been reported [13].

Conclusion

Diagnosis of a prenatal rudimentary horn, which is usually confirmed during surgery, is still elusive in spite of all modalities of diagnosis in our armamentarium. The delay in diagnosis is one of the major causes of increase in maternal morbidity and mortality. A multi disciplinary approach with

adequate blood transfusion facilities, active resuscitative methods, prompt surgery and early tertiary care referral will go a long way to prevent maternal mortality and morbidity.

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