



# Rupture of Non-communicating Rudimentary Horn of Unicornuate Uterus with Pregnancy

Yassar Shiekh<sup>1</sup> · Mohd Ilyas<sup>2</sup> · Insha Khan<sup>3</sup>

Received: 4 March 2018 / Accepted: 2 May 2018 / Published online: 8 May 2018  
© Society of Fetal Medicine 2018

**Abstract** Unicornuate uterus with a non-communicating horn is a rare anomaly and even rarer pregnancy in its non-communicating horn. The incidence of pregnancy in the non-communicating horn is 1 in 76,000 to 1 in 150,000. Due to non-compliant uterine musculature in the non-communicating horn, it is prone to rupture in cases of pregnancy. The rupture occurs usually in the second trimester. We describe a case which presented with the rupture of non-communicating horn with live fetus inside it. The present case had a 22 week fetus floating in the peritoneal cavity following the rupture of non-communicating horn with normal other uterine horn.

**Keywords** Non-communicating horn · Unicornuate uterus · Pregnancy · Rupture

## Introduction

Unicornuate uterus belongs to the type-2 Mullerian anomalies with unilateral agenesis and hypoplasia which can be further classified into communicating, non-communicating, no cavity and no horn. The rudimentary horn

pregnancy is very rare with an approximate incidence of 1 in 76,000 to 1 in 140,000. It has very high morbidity and mortality due to rupture of the non-communicating/rudimentary horn causing massive hemoperitoneum [1].

## Case Report

A 25-year old primigravida female of approximately 22 weeks gestation presented to the surgical emergency with the complaints of acute abdominal pain and multiple fainting attacks. On clinical examination, she was pale with tender abdomen. The blood pressure was 90/54 mmHg and hear rate was 130 bpm. Her hemoglobin was 2.3 g. Ultrasonography of the abdomen revealed a live fetus with intact surrounding membranes in the abdominal cavity with a large amount of free fluid in the surrounding peritoneal cavity. The mean gestational age of the fetus by BPD and FL was about 20 weeks (Fig. 1). There was evidence of a normally placed uterus beside the fetal sac which had minimal free fluid in the endometrial cavity (Figs. 2, 3). The aspiration of the free fluid from the peritoneal cavity revealed frank blood. The preliminary diagnosis of unicornuate uterus with the rupture of non-communicating horn having pregnancy was formulated.

The patient underwent midline laparotomy. It revealed that fetus was floating in the peritoneal cavity with intact membranes with the rupture of rudimentary uterine horn and normally placed normal uterine horn, about 2.5–3 L of blood was suctioned from the peritoneal cavity and the rudimentary horn excised. The fetus was retrieved from the abdominal cavity and resuscitated but could not be saved because of prematurity and respiratory failure. The patient received 10 blood transfusions and was admitted in

✉ Mohd Ilyas  
ilyasmir40@gmail.com

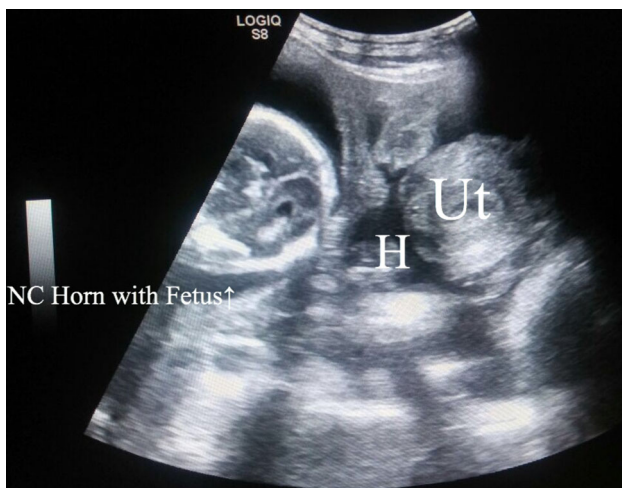
<sup>1</sup> Department of Radiodiagnosis, Government Medical College, Srinagar, Jammu and Kashmir 190010, India

<sup>2</sup> Department of Radiodiagnosis and Imaging, Sher-I-Kashmir Institute of Medical Sciences, Srinagar, Jammu and Kashmir 190011, India

<sup>3</sup> Department of Obstetrics and Gynecology, Sher-I-Kashmir Institute of Medical Sciences, Srinagar, Jammu and Kashmir 190011, India



**Fig. 1** Sonographic images depicting fetal biometry wherein the fetus is surrounded by its membranes



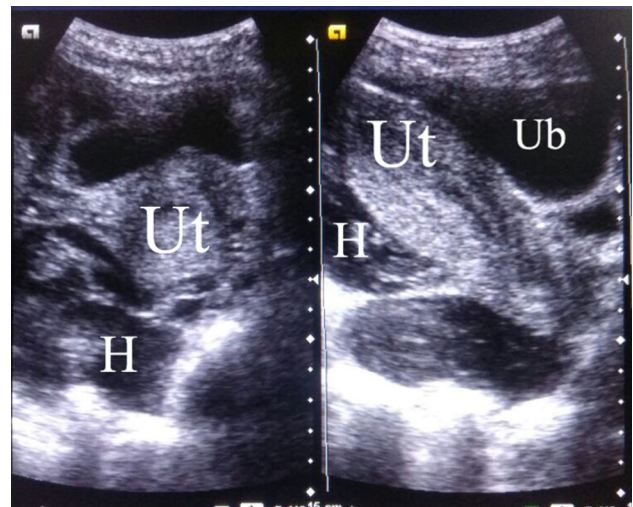
**Fig. 2** Axial sonographic image showing the normal uterine horn (Ut) and fetal head adjacent to it in the peritoneal cavity surrounded by fetal membranes with free fluid in the peritoneal cavity (H)

intensive care unit for next 7-days. She was discharged after she improved. Currently she is under follow-up.

## Discussion

Pregnancy in a non-communicating horn is rare but has serious implications owing to its tendency to rupture and causing hypovolemic shock. Early diagnosis is challenging with ultrasonography having only 26% sensitivity and it further decreases as the pregnancy advances. MR imaging has higher sensitivity but in emergent conditions, that cannot be done. If the patient presents with hypovolemic shock, that suggests rupture, then the only option is emergency laparotomy [2].

How does pregnancy occur in the non-communicating horn? This question has been answered by the hypothesis that there occurs trans-peritoneal migration of the sperm or ovum via the fallopian tube of the communicating horn



**Fig. 3** Axial and longitudinal sonographic images showing the normal uterine horn (Ut) having normal relation to the urinary bladder (Ub) and the surrounding hemoperitoneum (H)

which then reaches the non-communicating horn via its fallopian tube [3]. The various factors playing role in the rupture of a rudimentary horn with pregnancy include variable thickness of its musculature, poor distensibility of the myometrium, and dysfunctional endometrium. If antenatal diagnosis of a unicornuate uterus is available, the safest way is to perform the laparoscopic resection of the rudimentary non-communicating horn to avoid the future complications [4].

## Conclusion

Pregnancy in a rudimentary non-communicating horn of unicornuate uterus is a rare pathology usually presenting as acute abdomen with hypovolemic shock and managed by emergency laparotomy with resection of the rudimentary horn.

### Compliance with ethical standards

**Funding** No financial disclosures

**Conflict of interest** The authors declare that they have no conflict of interest.

**Statement of human and animal rights** This article does not contain any studies with animals performed by any of the authors.

**Ethical approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Informed consent** Informed consent was obtained from all individual participants included in the study.

## References

1. deSouza CS, Dorneles GG, Mendonça GN, Mombaqué dos Santos C, Gallarreta FMP, Konopka CK. Pregnancy in non-communicating unicornuate uterus: diagnosis difficulty and outcomes—a case report. *Rev Bras Gynecol Obstet.* 2017;39(11):640–4. <https://doi.org/10.1055/s-0037-1607046>.
2. Okonta PI, Abedi H, Ajuyah C, Omo-Aghoja L. Pregnancy in a non-communicating rudimentary horn of a unicornuate uterus: a case report. *Cases J.* 2009;2:6624. <https://doi.org/10.1186/1757-1626-2-6624>.
3. Juneja SK, Gupta S, Tandon P, Gumber N. Rupture of non-communicating rudimentary horn of uterus. *Int J Appl Basic Med Res.* 2017;7(2):146–7. [https://doi.org/10.4103/ijabmr.IJABMR\\_112\\_16](https://doi.org/10.4103/ijabmr.IJABMR_112_16).
4. Goel P, Aggarwal A, Devi K, Takkar N, Saha PK, Huria A. Unicornuate uterus with non-communicating rudimentary horn—different clinical presentations. *J Obstet Gynaecol India.* 2005;55(2):155–8.