

# Rudimentary horn – different clinical presentations

## Abstract

Unicornuate uterus with rudimentary horn is a type of Mullerian duct malformation. This rudimentary horn may or may not have functional cavity. This cavity is usually found to be noncommunicating with main cavity of unicornuate uterus. This rudimentary horn can create certain obstetrical and gynecological problems. Pregnancy in rudimentary uterine horn is a dangerous kind of ectopic pregnancy; its rupture causes massive hemoperitoneum. Collection of menstrual blood in the rudimentary horn will result in hematometra and can cause chronic pelvic pain and subsequent endometriosis. Three cases with different clinical presentation are being presented.

**Keywords:** rudimentary horn, hematometra, rupture

## Introduction

Unicornuate uterus with rudimentary horn is a type of Mullerian duct malformation and its incidence has been reported as 1 in 1000.<sup>1</sup> This malformation results from the defective fusion of the duct with the contra-lateral side. The cavity of this malformed duct is usually found to be noncommunicating with the main uterine cavity. A fibrous or fibro-muscular band connects the two but there is no communication in 80-90% of the cases. The rudimentary horn may have a functional endometrial cavity or it may be a small solid lump of uterine muscle with no functional endometrium.<sup>2</sup> This rudimentary horn can create some obstetrical and gynecological clinical manifestations; or remain asymptomatic.<sup>3</sup> Three cases with different clinical manifestations are presented.

## Case 1

22 yrs old primigravida was admitted with five months of amenorrhoea accompanied by mild pain abdomen of few days duration, pain was limited to upper abdomen and was associated with two episodes of vomiting. She was hospitalized for observation. Her vital parameters were stable and general examination was essentially normal. Uterus was corresponding to 22-24 weeks size and was non tender; fetal heart sounds were heard normally. Her routine antenatal investigations done earlier were normal. This being a small hospital; bedside ultrasound facilities were not available hence it was scheduled for next day as that day it was Sunday and there was no emergency. She was managed with antacids and other supportive measures. After about three hours her pain had increased and she had developed tachycardia and fetal heart had disappeared. Urgent ultrasound showed free fluid in peritoneal cavity and absent fetal heart sounds. In view of free fluid in the abdomen she was shifted to OT for exploratory laparotomy which revealed hemoperitoneum and rupture of rudimentary horn of uterus on left side along with extrusion of fetus and placenta (Figure 1). The rudimentary horn was attached to right side of the uterus which was unicornuate (Figure 2). The ruptured rudimentary horn along with corresponding fallopian tube was excised. She was transfused two pints packed red cells and she made uneventful postoperative recovery.

## Case 2

27 years old lady, para 2 reported with pain abdomen of many months duration. Pain was intermittent initially but had become almost continuous and was dull aching in character. She had two normal vaginal deliveries. Her general and systemic examination

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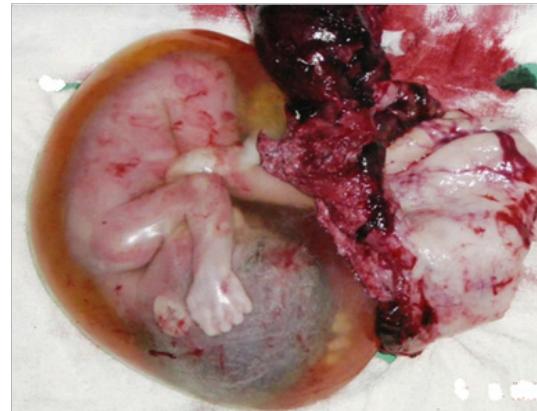
Sukesh Kathpalia

Andaman Nicobar Islands Institute of Medical Sciences, India

**Correspondence:** Dr. Sukesh Kathpalia, Andaman Nicobar Islands Institute of Medical Sciences, Port Blair, India, 744104, Tel 9599600375, Email kathpaliasokesh@gmail.com

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was normal. Gynecological examination revealed a normal size uterus with adnexal mass of 10 to 12 cm, globular mass which had restricted mobility. Ultrasound suggested large endometriotic cyst. She was posted for diagnostic laparoscopy which showed an enlarged and distended rudimentary horn on right side (Figure 3) (Figure 4). Since the mass was big size and endoscopic surgical expertise was not available, hence laparotomy was done and rudimentary horn along with ipsilateral fallopian tube was excised. The cavity contained a large quantity of chocolate material. She made an uneventful postoperative recovery.



**Figure 1** Ruptured rudimentary horn with fetus and placenta extruded out.



**Figure 2** unicornuate right horn of uterus after removal of rudimentary horn.



**Figure 3** Hematometra along with non distended uterine body on laparoscopy.



**Figure 4** Hematometra on right side on laparoscopy.

### Case 3

21 years old primigravida, a booked case was detected to have breech presentation at 32 weeks gestation. All her antenatal investigations including anomaly scan were normal. Presentation did not undergo spontaneous version and remained breech till 37 weeks of gestation. She underwent elective CS; baby and placenta were delivered without any difficulty. At the time of section it was found to be a case of unicornuate uterus along with small rudimentary horn on left side. The rudimentary horn along with ipsilateral fallopian tube was excised to prevent any future complication like ectopic pregnancy. She made uneventful postoperative recovery.

### Discussion

Paramesonephric ducts also known as Mullerian ducts are paired embryonic structures which fuse craniocaudally and later recanalize and develop into fallopian tubes, uterus, cervix and upper part of vagina. Certain malformations can occur during embryonic development,<sup>4</sup> which have been classified by the American Society of Reproductive Medicine. A unicornuate uterus (type II malformation) is classified into four groups depending on presence or absence of functional endometrium and communication.<sup>5</sup>

If pregnancy occurs in unicornuate uterus; then it is associated with high rate of spontaneous abortion, preterm labor, abnormal presentation, retained placenta and uterine rupture.<sup>6</sup> Pregnancy in non-communicating rudimentary horn is a rare form of ectopic gestation and its incidence is between 1/100,000 to 1/140,000 pregnancies.<sup>7</sup>

It occurs following Trans peritoneal migration of sperm or zygote. It is recommended by most that immediate surgery be performed whenever a diagnosis of pregnancy in rudimentary horn is made even if unruptured to prevent catastrophic rupture;<sup>8</sup> as this can lead to torrential intraperitoneal hemorrhage. The fallopian tube on the side of the rudimentary horn must be removed along with the rudimentary horn to prevent future tubal gestation.

A careful pelvic examination in the 1<sup>st</sup> trimester showing deviated uterus with palpable contra-lateral pelvic adnexa should arouse suspicion of uterine anomaly.<sup>9,10</sup> Ultrasonography can also pick up this anomaly with reasonable accuracy.<sup>11</sup> A gestational sac surrounded by myometrium by the side of a normal empty uterus and non-communication of gestational sac with the endometrial cavity differentiates it from pregnancy in one of the horns of a bicornuate uterus;<sup>12</sup> MRI and CT scan also can help in diagnosing uterine malformations.<sup>13</sup> The menstrual blood may accumulate in the noncommunicating variety of rudimentary horn and result in hematometra causing abdominal pain. Second case had similar clinical presentation. All cases of uterine malformations should undergo detailed investigations to rule out urinary tract malformations which are commonly associated. None of our cases had any renal malformation. Another long term complication of rudimentary horn which may occur is endometriosis due to retrograde menstruation as a result of functional cavity without communication.

A review of the literature shows that operative laparoscopy can be used for removal of a rudimentary horn successfully and minimally invasively.<sup>14,15</sup>

### Acknowledgements

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### Conflict of interest

The author declares that they have no conflict of interest.

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