

# Incomplete Rupture of Pregnancy in the Non-Communicating Rudimentary Uterine Horn At 26 Weeks Gestation, with Neonatal and Maternal Survival

Anne ve Yenidoğanın Yaşamlarını Devam Ettirdiği, Parsiyel Rüptüre Olmuş 26 Haftalık Nonkomunikan Rudimenter Horn Gebeliği

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**ABSTRACT** Pregnancy in a noncommunicating rudimentary horn is extremely rare. It is a life-threatening condition as it mostly terminates by rupture at the second trimester of the pregnancy. Incomplete rupture of a pregnancy at the noncommunicating uterine horn, at 26 weeks, is presented. The case could not be diagnosed at the first trimester and the second trimester examinations by ultrasound scan. Abnormal maternal alpha fetoprotein levels and abnormal Doppler of the uterine artery were detected at the second trimester screening. It was misdiagnosed later as non pregnancy related acute abdominal pain. Preoperative diagnosis, successful delivery of a live fetus and excision of the rudimentary horn was performed. First trimester ultrasonography must be done by a senior gynecologist; rudimentary uterine horn pregnancy should be remembered in pregnant patients presenting with acute abdominal pain.

**Key Words:** Uterine rupture, pregnancy

**ÖZET** Nonkomunikan uterin horn gebeliği çok nadir olup genellikle ikinci trimestere rüptürle sonuçlandığı için hayatı tehdit eden bir durumdur. Bu yazıda: birinci ve ikinci trimester ultrasonografi incelemelerinde tanı konulamamış 26. haftaya kadar ilerlemiş inkomplet rüptüre olmuş nonkomunikan uterin horn gebeliği sunulmuştur. İkinci trimester incelemesinde anormal alfa fetoprotein ve anormal uterin arter Doppler bulguları mevcuttur. Olgu gebelik dışı bir nedene bağlı akut karın olarak izlenmiş sonrasında ekibimizce doğru teşhis konularak canlı bir bebek laparotomide doğurtulmuş rudimenter hornun eksizyonu yapılmıştır. Birinci trimester ultrasonografi incelemesi deneyimli bir kadın hastalıkları ve doğum uzmanı tarafından yapılmalıdır. Gebelik ve akut karın olgularında rudimenter horn gebeliği akla getirilmelidir.

**Anahtar Kelimeler:** Uterin rüptüre, gebelik

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Pregnancy in the rudimentary horn is a rare condition that has been reported to be 1/100.000 to 1/140.000 pregnancies.<sup>1,2</sup> Despite the recent advances in the ultrasound, the diagnosis of this condition is difficult. It can be misdiagnosed or diagnosed at laparotomy due to rupture of the pregnancy. The majority of the cases are reported to occur at the non-communicating horn of the uterus.<sup>3</sup> A rudimentary horn results from an arrest in the development of one of the müllerian ducts with the inappropriate fusion with the contra lateral side. Connection of horn with the uterus may be fibrous or fibro muscular. There is no communication between two cavities at 70-90% of the cases.<sup>3</sup> Because of the variable musculature of the uterine horn duration of pregnancy may differ to end at second

trimester in 80-90% of cases and 10% of cases may carry out the gestation to term we report a case of noncommunicating uterine horn pregnancy with acute abdominal pain due to incomplete rupture and intraperitoneal bleeding that both mother and fetus have survived.<sup>3</sup>

## CASE REPORT

A 19-year-old (Para 0, gravida1) attended to our emergency service with acute abdominal pain. She had been hospitalized at a local hospital for one day and referred to our hospital with the diagnosis of acute appendicitis. A single intrauterine living fetus at 26 weeks 4 days with moderate intraperitoneal fluid accumulation was reported at the ultrasound scan, that had been done one day ago. As we referred back to her history, she had dysmenorrhea for 5 years. She had abnormal biochemical screening for down syndrome (AFP=5.42 MOM). She had a Doppler ultrasonography that was done at 20 weeks gestation, confirming a normal fetus with increased S/D at left uterine artery. She did not define recurrent abdominal pain through out this pregnancy. After admission to the emergency room, department of gynecology took care of the patient. She was pale with cold, clammy extremities with rapid pulse. Her blood pressure could hardly measured with severe hypotension. Her abdomen was tense. Severe anemia (hemoglobin 6.23 g/dL) with leucocytosis (26200 /mL) was detected at laboratory workup. Massive abdominal fluid with an empty uterus was detected at transabdominal ultrasonography. There was a single living fetus with normal amniotic fluid near by the upper left side of the empty uterus. Placenta was clearly localized at the upper part of the extra uterine gestation. Both kidneys were at normal localization. Intraabdominal hemorrhage was confirmed by paracentesis. Exploratory laparotomy was immediately performed. At the laparotomy; there was 1500 mL of blood in the abdominal cavity. There was a left sided uterine horn pregnancy with the left tube attached to the rudimentary horn. The left ovary was normal. The right tube and the right ovary were healthy and normally attached to the right hemi uterus. There was an incomplete rupture of three centimeters

with bleeding at the placental localization. A female 600 gram, living fetus was delivered by cesarean. Fetus was resuscitated and transported to the neonatal intensive care unit. There was a fibromuscular attachment between the right hemi uterus and the rudimentary uterine horn. Continuity of the cavity was investigated using a blunt probe. There was no continuity with the main uterine cavity. Excision of the left rudimentary horn and ipsilateral salpingectomy were carried out. The patient was transfused 2 U of blood and she was discharged with hemoglobin 7.14 g/dL at the third postoperative day.

## DISCUSSION

Since the first case of uterine horn pregnancy had been reported by Maruceau at 1969,<sup>4</sup> there were several cases reported in the literature but there were rare cases that both fetus and the mother have survived.<sup>4-7</sup>

Based on the finding of corpus luteum at the contra lateral ovary in 10% of cases, transperitoneal migration of the sperm or the fertilized ovum is suspected at the occurrence of noncommunicating uterine horn pregnancies.<sup>1</sup> As our case was at the end of the second trimester we could not define any corpus luteum in the ovaries.

Abdominal pain and dysmenorrhea is the most common symptom of noncommunicating uterine horn due to retrograde menstruation and endometriosis. In our case, dysmenorrhea was present for five years but we could not define any endometriosis at the peritoneum, cul-de-sac or the ovaries. This may be due to minor shedding of the small endometrial cavity.<sup>2,3</sup>

Although ultrasound at first trimester provides a good opportunity to define extra uterine pregnancies, there are too many unrecognized case of noncommunicating uterine horn pregnancies that are diagnosed after the rupture.<sup>8</sup> Although our case was examined by different gynecologists at 12,20 and 26 weeks of gestation by ultrasonography, the diagnoses were incorrect at all the times. This may be due to the rare incidence of uterine horn pregnancy, focusing on the fetus rather than the whole

pregnancy, inexperienced gynecologists and the asymptomatic patient. The patient was misdiagnosed as appendicitis before the admission to our hospital. Late occurrence of hematological instability due to incomplete rupture and leucocytosis may also lead to this misdiagnosis.

Although Daskalakis et al reported an early diagnosed rudimentary horn pregnancy that had refused termination of pregnancy with normal serum biochemical screening for down syndrome, our case had high maternal AFP levels and increased S/D at the left uterine artery that have not been previously reported.<sup>9</sup> These findings are probably due to abnormal placentation and also the abnormal embryological development of the müllerian system respectively. These findings may

be discriminative with other symptoms at the early diagnosis of this condition.

We have reported this case to emphasize the difficulties, encountered at diagnosis of uterine horn pregnancy. Although there is not scientific evidence demonstrating that removing the rudimentary horn improves the reproductive outcome, it is important to diagnose this condition before pregnancy.<sup>3</sup> Cases that could not be diagnosed before pregnancy should be diagnosed at the first trimester ultrasound scan that can prevent higher morbidity due to rupture. This may be obtained by performing the first trimester ultrasound scan by a senior gynecologist. Uterine horn pregnancy should also be remembered at the differential diagnosis of pregnancies presenting with acute abdominal pain.

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