

# Twin Pregnancy in a Non-Communicating Uterine Horn

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This is a case presentation of a twin pregnancy in an uncommunicating rudimentary uterine horn. At 23 gestational weeks, the rudimentary horn ruptured. Emergency laparotomy was performed. Two fetuses lying free in the peritoneal cavity were delivered and the ruptured horn was repaired by primary closure. (*Gynecol Obstet Reprod Med* 2006; 12:138-140)

**Key Words:** Twin pregnancy, Uterine anomaly, Uterine rupture

An unicornuate uterus is a rare congenital anomaly present in 1-7% of patients with a müllerian abnormality.<sup>1,2</sup> The first rudimentary uterine horn pregnancy was described by Mauriceau and Vassal in 1669 and more than 400 cases have since been reported.<sup>3</sup> Only 24 of these pregnancies survived and only half reached term. Most cases have resulted in uterine rupture and fetal death.<sup>3,4,5</sup> Maternal mortality approached 88% during the 19<sup>th</sup> century but declined to 2-5% in recent years.<sup>2-5</sup> The rudimentary horn may consist of a functional cavity or it may be a small solid lump of the uterine muscle with no functional endometrium.<sup>5</sup> Pregnancy in a rudimentary horn is possible when transperitoneal migration of either spermatozoa or fertilized ovum from the contralateral side occurs. In 90% of the cases rupture of the rudimentary horn rupture occurs in the second trimester.<sup>3</sup>

## Case Report

A 32 years old multigravida with twins at 23 weeks of gestation was admitted to our emergency unit because of sudden onset lower abdominal pain. Her last delivery was 8 years ago. The first delivery was a cesarean section because of a footling breech at 40 weeks of gestation. The physical examination revealed pain in the right side of the uterus. The pulse was 100 beats/minute, blood pressure was 100/60 mmHg and the hemoglobin level 9.7 gr/dl. Ultrasound examination revealed free fluid (>300 cc) in the peritoneal cavity and there were no fetal cardiac activities. Emergency laparotomy was performed for the diagnosis of hemoperitoneum. During the operation her blood pressure dropped to 50/0 mmHg and with a weak phylliform pulse. When the

peritoneum was opened, blood and the two fetuses emerged. Two dead male fetuses weighing 370 gr and 230 gr were delivered (Figure 1). One of the placentas was lying free in the abdominal cavity. Fetuses were trapped in the right ruptured rudimentary horn which is attached to an unicornuate uterus. The other placenta was implanted as a cup-shaped mass arising from the right uterine horn with large spiral vessels. It was extracted manually and the defect of the uterus was repaired in two layers with 1-0 vicryl sutures. Right fallopian tube was ligated with Pomeroy technic to prevent recurrence. The left unicornuate uterus, fallopian tube and ovary were all normal. There were no communication between the right uterine horn and unicornuate uterus (Figure 2). Palpation of the kidneys were normal. The patient received 4 units of whole blood. The postoperative convalescence was uneventful. The patient was discharged on day 4 postoperatively.



Figure 1. Dead twins

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## Discussion

The true incidence of an unicornuate uterus is unknown. The condition was found in 10% of 404 women with uterine anomalies. It was thus as common as a didelphic uterus. Uterine anomalies are found in 0.5% to 1.8% of reproductive age women.<sup>4,5</sup> It could be estimated that an unicornuate uterus is to be found 1 in every 1000 women. The unicornuate uterus with non-communicating rudimentary horn was the most common (48%) type.<sup>5</sup>



Figure 2a. At laparotomy-rupture uterine horn

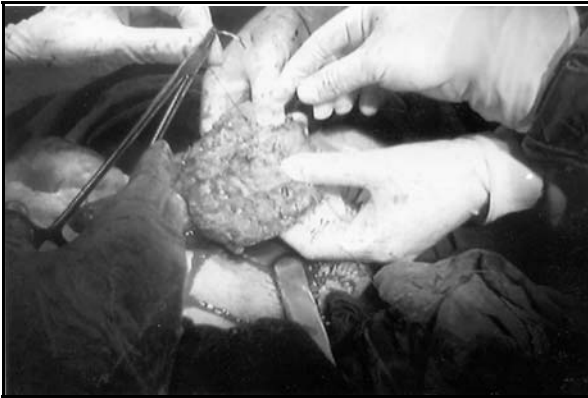


Figure 2b.

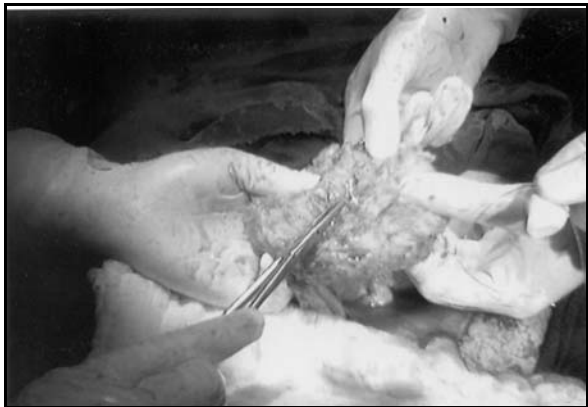


Figure 2c.



Figure 2d.

Since reported by O'Leary in 1963, there have been more than 150 cases of rudimentary uterine horn pregnancies, for a current total of at least 490 reports.<sup>3</sup>

A review of the literature revealed that neonatal survival in rudimentary horn pregnancies is about 5%. Maternal mortality although improved dramatically in recent years is still 1-2 percent and is attributed to exanguinations due to uterine rupture. In 78 percent of cases the uterine horn is non-communicating type.<sup>3</sup>

When all the rudimentary horn pregnancies in the current series are analyzed, 57 percent resulted in uterine rupture.<sup>1</sup> O'Leary found that 89 percent of such pregnancies ruptured among 240 cases between the mid-17<sup>th</sup> and mid 20<sup>th</sup> centuries.<sup>3</sup> Only 23 % of rudimentary uterine horn gestations are carried to term or beyond and 1.9% of cases resulted in maternal death.<sup>1</sup>

In cases which the side of the pregnancy was recorded, 52% were on the right side<sup>1</sup> as in our case.

The probability of a singleton pregnancy rudimentary uterine horn is estimated as 1 in 76000 pregnancies.<sup>4</sup>

As compared with the overall incidence of ectopic pregnancy, the rate involving rudimentary uterine horns is 0.27% or 1 in 365 ectopic gestations.<sup>3,5</sup> The probability of a twin pregnancy occupying both the unicornuate uterus and its associated rudimentary horn is estimated to be 1 in 43 000 000 gestations.<sup>1</sup> In the literature there have been 9 twin pregnancies reported. This is the first report of diamniotic dichorionic twins located in the right uterine horn. Placenta accreta confirms the view that the endometrium of the rudimentary horn is poorly developed and nonfunctional and unable to form the natural barrier to chorionic invasion.<sup>3</sup> However an accreta-type plasenta was not found in the rudimentary horn in the present case. The prognosis is poor for the patient with a pregnancy in the rudimentary horn.<sup>1</sup> The muscle of the rudimentary horn is exceptionally thin and the non-functional endometrium promotes pathological placentation.

The majority of pregnancies in the rudimentary horn ruptured in the first or second trimester and caused massive intraabdominal hemorrhage and potentially threatened the mother's life.<sup>4,5</sup>

The high number of recurrent ectopic pregnancies in both rudimentary horn and tubes warrants the removal of the rudimentary horn and its tube when diagnosed.<sup>2</sup> We preferred to repair the defect and to ligate the fallopian tube attached to the horn because of the unstable hemodynamic condition of patient.

In our case a diamniotic dichorionic twin pregnancy could be either monozygotic or dizygotic. In order to determine the zygosity DNA analyses must be done.

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