

# Successful Pregnancy Outcome in Uterus Didelphys: A Case Report

Sharmila Poudel,<sup>1</sup> Muna Bhattarai,<sup>1</sup> Harikala Soti<sup>2</sup>

<sup>1</sup>Department of Women's Health and Development, Gandaki Medical College, Pokhara, Nepal, <sup>2</sup>Department of Pediatrics Nursing Gandaki Medical College, Pokhara, Nepal.

## ABSTRACT

Didelphys uterus is a mullerian duct anomaly that is extremely rare and has unpredictable reproductive and gestational effects. Common genital tract congenital defects in women can have a wide range of implications. While some mullerian anomalies are easy to spot, others manifest in odd ways that make diagnosis and treatment difficult. For a thorough grasp of the pathophysiology and clinical characteristics of congenital defects, one should have a solid foundation in fundamental embryology. Uterus didelphys make up 8% of all congenital problems affecting the female reproductive system. About 0.3% of the population is affected. 2.1% of the population of women with a history of infertility and abortion experience this more frequently. This is a case report of a 19 years primigravida mother with uterine didelphys with the outcome being successful delivery with a live female via caesarian section at 32 weeks of gestation.

**Keywords:** didelphys uterus; mullerian duct anomaly; successful pregnancy.

## INTRODUCTION

Uterine anomalies are congenital malformations of the female reproductive tract. Examples include uterus didelphys (double uterus), arcuate uterus (uterus with a dent on the top part), unicornuate uterus (one-sided uterus), bicornuate uterus (heart-shaped uterus), septate uterus (uterus with partition in the middle), and absent uterus. These malformations may also affect the fallopian tubes, cervix, and upper vagina. Uterine anomalies may cause infertility or problems with pregnancy.<sup>1</sup>

Didelphys uterus, commonly referred to as

a "double uterus." is a rare abnormality that develops when a baby girl is in her mother's womb. Every uterus starts out as two small tubes called mullerian ducts. As they begin to develop, they usually fuse together to form one uterus. But in rare cases, the tubes remain separate and become two uteri.<sup>2</sup> The paramesonephric ducts' failure to fuse in a specific location or along their regular line of fusion causes uterine duplication. Individual horns are fully grown, normal in size, and have two cervixes in each didelphys. There is one fallopian tube per uterus.

**Correspondence:** Ms. Sharmila Poudel, College of Nursing Sciences Gandaki Medical College Teaching Hospital and Research Center, Pokhara, Nepal. E-mail: sharmilapoudel1234@gmail.com. Phone: +977-9866346610.

Sometimes, there is only one cervix for both wombs, other times each womb has a cervix. Often the vagina in women with a double uterus is divided into two separate openings by a thin membrane. It's entirely possible for women with a double uterus to carry a baby to term. A double uterus doesn't usually cause a woman any problems for actually getting pregnant. Sometimes, the shape of the uterus that the fetus has implanted in leads to miscarriage. As well, women with a double uterus generally have smaller uteri, which can lead to preterm labor.<sup>3</sup>

While some patients have primary infertility, others are asymptomatic. A normal pregnancy may occur in some cases, but obstetric problems like spontaneous abortion, stillbirth, preterm birth, and malpresentation may also occur.<sup>4</sup>

### CASE PRESENTATION

A 19 years primigravida female on her 32+2 weeks of gestation with threatened preterm was presented to the Obstetrics outpatient department complaining of lower abdominal pain for one day. The pain was acute onset; on/off, non-progressive, non-radiating. She confirmed her pregnancy after one month of missed period as her cycle was regular of interval 28+2.

She was diagnosed with Agentic right kidney with compensatory enlarged left kidney with uterine didelphys's one year back. She was otherwise fit and well with no previous abdominal surgeries, normal BMI, non-smoker, and no allergies. She did not report having dyspareunia, dysmenorrhea, or chronic abdominal pain in the past. Her menstrual history was regular with the last menstrual period on 2078/01/27 with 32+2 weeks of gestation. There was no history of threatened abortion. She had received two tetanus toxoid injection and albendazole prophylaxis. The pregnancy was normal until 32 weeks then after she suddenly had lower abdominal pain. Then she was presented to Beni

hospital where she was kept in observation and provided with injection of dexamethasone 12 mg and salbutamol 4 mg per oral. After some hours of observation, she felt a mild uterine contraction and was then referred to a higher center.

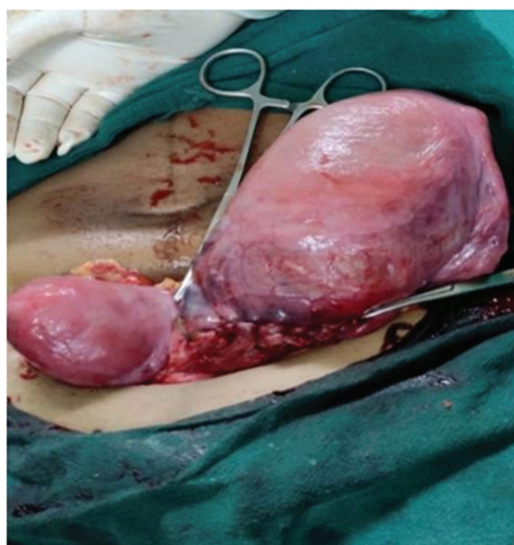
During the admission, the patient had a mild uterine contraction. The vital signs of the patient were stable (blood pressure = 120/70 mmHg, pulse = 88 beats/minute, respiratory rate =18/minute, fetal heart sound rate=132beats/minute). The symphysio-fundal height corresponds to 30 weeks of intrauterine pregnancy, the fetal lie was longitudinal, with a cephalic presentation, placenta in the posterior part with borderline oligohydraminous. On examination, external os was closed, uneffaced, medium in consistency, no pooling, and mild whitish discharge was present.

The patient was kept under close observation under intravenous injection of dexamethasone 12 mg which means the patient got a total of 24 mg of dexona, Tab salbutamol 4 mg stat dose only, Injection Ceftriaxone 1 gm BD, and Infect V tab PV HS. After the patient had a moderate type of uterine contraction. Her pre-operative investigation and check-up was done and planned for Caesarian Section. A general examination before the surgery showed a longitudinal vaginal septum, with two vaginal openings which is seen.

There were a non-gravid right uterus and a gravid left uterus. An alive single female baby of 2000 grams was delivered from the left gravid uterus via caesarean section. The estimated blood loss was around 800 ml. The post-operative recovery was uneventful and was discharged on fifth day after counselling on family planning and management of subsequent pregnancy.



**Figure 1.** Fetus with amniotic fluid in left uterus.



**Figure 2.** Left and right uterus.



**Figure 3.** Left uterus sutured after cesarian section.



**Figure 4.** Placenta of the fetus of 32 weeks.

## DISCUSSION

The pathogenesis of uterus didelphys is a failure of the mullerian (or paramesonephric) ducts to fuse. Fusion of the mullerian ducts normally results in a single endometrial cavity and smooth fundal contour. Instead, with uterine didelphys, the two paramesonephric ducts fuse only to some degree, resulting in a

variety of anatomic outcomes. The mullerian ducts fuse in the caudal portion of the midline, and the unfused cranial portions give rise to the fallopian tubes. Fusion of the paired mullerian ducts should occur between the seventh and ninth weeks of gestation.

Uterus didelphys is a rare anomaly and accounts for 8% of the congenital anomalies



of the female reproductive tract.<sup>5</sup> It occurs in 0.3% of the total population. In the population of women with a history of abortion and infertility, its rate of occurrence is more frequent in 2.1%.<sup>6</sup> Most women with didelphys uterus are asymptomatic, but may present with dyspareunia or dysmenorrhea in the presence of a thick, sometimes obstructing vaginal septum. This obstructing vaginal septum can lead to hematocolpos or hematometrocolpos and patient present with chronic abdominal pain. Rarely genital neoplasms and endometriosis are reported in association with cases of didelphys uterus.<sup>7</sup>

The association between having a MDAs and fertility is debatable. The review by Grimbizis demonstrated the incidence of MDAs in infertile patients (3.4%) similar to that of the general population and/or fertile women (4.3%), which they concluded demonstrated that MDAs may not have a negative impact on fertility.<sup>8</sup> However, some studies demonstrate the impact of didelphys uterus on reproductive outcome.<sup>9</sup> A large retrospective longitudinal study of 3181 patients by Raga et al. demonstrated poor reproductive performance in women with didelphys uteri, with a higher rate of preterm delivery and spontaneous abortion, and the lowest chance of having a term delivery compared with the other MDAs.<sup>8,9</sup>

A didelphys uterus has been shown in many case reports to occur as a part of a syndrome, more specifically known as Herlyn-Werner-Wunderlich syndrome, also known as Obstructed hemi vagina and ipsilateral renal anomaly (OHVIRA).<sup>10</sup> It is a very rare congenital anomaly of urogenital tract involving mullerian and wolffian duct. It is characterized by a triad

of didelphys uterus, obstructed hemi-vagina and ipsilateral renal agenesis. In case of single pregnancy in uterus didelphys, literature shows the right hemi uterus having pregnancy predominantly.<sup>8,10</sup>

In uterus didelphys, non-pregnant hemi uterus is also subjected to hormonal influences as the pregnant hemi uterus and it remains as a pelvic organ posterior to the pregnant hemi uterus and hampers delivery of the fetus.<sup>11</sup> The case report describes a single successful pregnancy in left hemi uterus, which is very rare. At present, there are very few case reports on uterine didelphys, therefore more studies are needed in order to better determine the reproductive and gestational outcomes.

## CONCLUSIONS

The didelphys uterus is a very rare MDAs with varying reproductive and gestational outcomes in comparison to other more common abnormalities. The impact of common congenital anomalies of the female genital tract is hugely variable. Some mullerian anomalies are easily diagnosed, but others have unusual presentations that make diagnosis and therapy difficult. A good knowledge of basic embryology is important for understanding the pathogenesis and clinical features of these anomalies. All gynecologists should be aware of these conditions and their possible clinical presentations. Overall, the literature available on the didelphys uterus is quite limited at the present time. Therefore, more studies are needed in order to better determine the reproductive and gestational outcomes, so that clinicians can adequately advise and care for their patients.

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