



Case Report

Delivery of double singleton pregnancies in a woman with a double uterus, double cervix, and complete septate vagina

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Abstract

Uterine anomalies involving a double uterus, double cervix, also known as didelphys uterus, and complete septate vagina are rarely seen and have an associated fertility problem. However, artificial reproductive technology with embryo transfers can help solve this fertility challenge. Conception in the uterus in just one side is commonly seen for embryos, which are always transferred through the usually used (dilated) vagina. We here present a patient with the above uterine anomaly who conceived with the aid of *in vitro* fertilization and embryo transfer to both uterine cavities under general anesthesia, which resulted in successful double singleton pregnancies with one fetus in each uterus. With intensive prenatal care, the pregnancy course for each fetus was rather uneventful. Although both fetuses were in cephalic presentation, cesarean section was performed at the 39th week of gestation with good outcomes in order to preclude anticipated difficulties if the baby had been delivered through the rarely dilated vagina. However, order of birth between the two fetuses was a crucial decision during the operation. Copyright © 2015 Elsevier Taiwan LLC and the Chinese Medical Association. All rights reserved.

Keywords: didelphys; double cervix; double uterus; septate vagina; twin pregnancy

1. Introduction

Patients suffering from didelphys uterus (double uterus and double cervix) with complete septate vagina are typically discovered when they report problems of infertility and obstetrical complications.^{1–3} Simultaneous pregnancy in each uterine cavity of a double uterus had been reported as early as 1927.⁴ Some patients required the aid of artificial reproductive technology (ART) and embryo transfer to conceive, with a consequent elevated incidence of multifetal pregnancies. Malpresentations were commonly seen in multifetal pregnancies and were always delivered through the abdominal

route. However, in twin pregnancies, giving birth vaginally was encouraged when the fetuses were both in cephalic presentation. Whether through the vaginal or the abdominal route, delivering the fetuses successively began with the one closest to the internal cervical os. However, in a set of twins gestating separately in double uteruses (1 in each uterus), which fetus should be delivered first was an important decision during cesarean section.

2. Case Report

A 37-year-old female suffering from infertility was found to have a uterine anomaly with didelphys uterus (Fig. 1) and complete septate vagina. The left vaginal canal was seldom dilated, as disclosed upon physical examination. Successful twin pregnancies with one fetus in each uterus were obtained with the aid of *in vitro* fertilization and embryo transfer to both uteruses under general anesthesia (Fig. 2). Prenatal care with

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Fig. 1. Double uterus found during ultrasound examination.

close monitoring was applied to prevent fetal loss and preterm birth throughout the course of pregnancy.

At term, both fetuses were in cephalic presentation. The fetus in the right uterus was labeled as Twin A, since its presentation was close to the pelvic inlet, and the fetus in the left uterus was labeled Twin B (Fig. 3). Cesarean section was performed at the 39th week of gestation following an operation of 1 hour and 44 minutes duration. The birth weights of Twins A and B were 3116 g and 3140 g, respectively. Both babies had good Apgar scores. Although there was 2200 mL blood loss, the patient recovered well after receiving a transfusion.

3. Discussion

According to an earlier study, the frequency of uterine anomalies was 6.7% in the general population and ~7.3% in the infertile population.⁵ A failure in Müllerian duct fusion might result in a didelphys uterus, as well as a complete or partial septate vagina.⁶ This anomaly was typically discovered when the woman experienced fertility problems or had recurrent miscarriages. Overall, uterus didelphys has been found in 0.2% of the infertile population.⁶

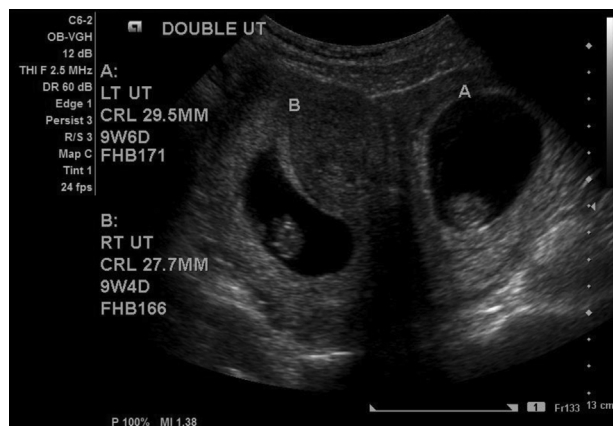


Fig. 2. Two embryos located separately with one in each uterus.

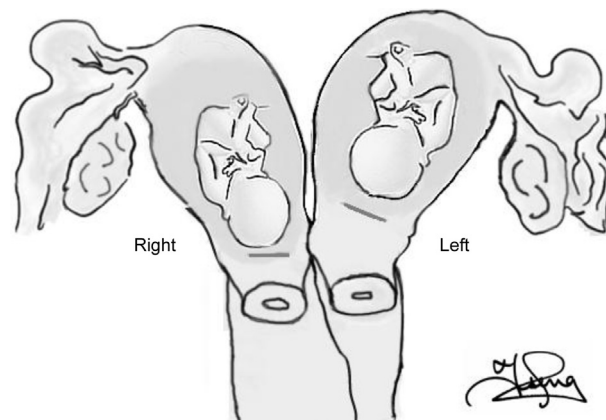


Fig. 3. Double singleton pregnancies in didelphys uterus with complete septate vagina were obtained with the aid of artificial reproductive technology and embryo transfers to each uterus. The bars at the lower segments indicate the uterine incisions during cesarean section. The left uterus was opened first.

Although infertility has been one of the main problems for women with uterine anomalies, successful pregnancies can be facilitated by ART and embryo transfers. Customarily, when a woman has been diagnosed with didelphys uterus with complete septate vagina, embryo transfers to only one uterus was performed. However, in this case, embryos were transferred separately to each uterus in order to enhance the conception rate. Fortunately, double singletons with one fetus in each uterus were obtained successfully.

Delivering twins gestating separately in double uteruses and double cervixes with complete septate vagina can be challenging to the obstetrician. The fetus located nearest to the internal cervical os should be delivered first if both of the fetuses are in the same uterus. However, this case presented a unique and different situation, and therefore, cesarean section was performed for two reasons. First, the fetus in the uterus with the rarely dilated vagina was expected to present a difficult delivery. Second, an unpredictable labor course might occur arising from the competition of two simultaneously laboring uteruses. Nevertheless, an extremely challenging condition occurred just after the abdomen was opened with a low midline longitudinal incision (Fig. 4). Delivering Twin A from the right side uterus appeared more problematic due to a complicated approach to the low uterine segment caused by interference by the undelivered left side uterus. Therefore, the decision was made to deliver Twin B from the left uterus first, given its location close to the operation wound. Unfortunately, heavy bleeding with shock occurred after the birth of the first baby. In order to prevent a hypoxic effect on the unborn fetus resulting from maternal hemorrhage, incision on the right uterus was performed as soon as the bleeding from the left uterus was checked by closing sutures. Fortunately, both newborns were found to have good Apgar scores and satisfactory birth weights.

In conclusion, from treatment onset where successful twinning conceptions in double uteruses occurred, to a final result where the twins were safely delivered through the abdominal route, this case is both exceedingly rare and a

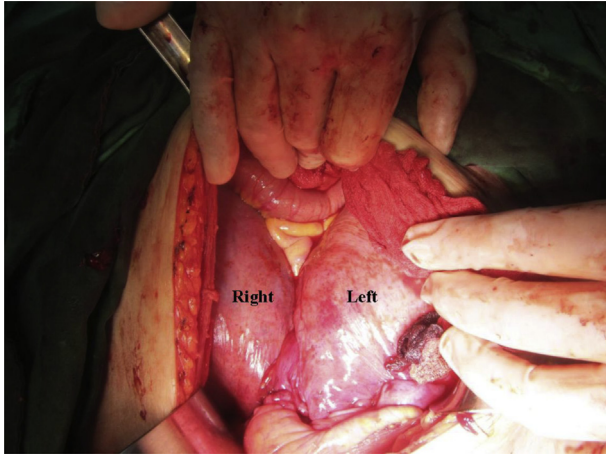


Fig. 4. Two enlarged uteruses visible after the abdomen was opened with a low middle longitudinal incision.

profoundly challenging task for both the infertility physician and obstetrician. However, several lessons can be learned from this case. First, it is important to recognize that separate embryo transfers to both uteruses may enhance the pregnancy rate. Second, a low midline longitudinal incision over the lower abdomen was required to enhance exposure and provide ample space for delivery. Third, delivering the fetus located closest to the incision first was a crucial decision made during

the operation. Lastly, it remains essential to perform the operation as quickly as circumstances permit, given that there were two uteruses to be opened and the unexpected heavy bleeding potentially having a harmful effect on the later-delivered fetus.

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