International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Banerjee S et al. Int J Reprod Contracept Obstet Gynecol. 2026 Jan;15(1):349-351
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20254311

Case Report

Double placenta in a singleton pregnancy: a case report

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Received: 21 November 2025
Revised: 16 December 2025
Accepted: 17 December 2025

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ABSTRACT

Two placentas in singleton pregnancy with fused umbilical cord which has its own placental insertion site forming 3-vessel cord at fetal end is an extremely rare case. We present a case which describes two placentas with fused umbilical cord. A 37-year-old woman, height of 152 cm, gravida 0, para 0, conceived by IVF with ovum donation in a FET cycle with two embryos transferred, visited our clinic regularly during the antenatal period. The 1st trimester scan at 6 weeks showed DCDA twin but at 11 weeks combined 1st trimester screening test, the scan showed single fetus with demise of the second twin. The 1st trimester scan and anomaly scan did not reveal any double placenta. Later the ultrasound showed the second twin to have become a re-absorbed vanishing twin with single placenta only. The last ultrasound scan done for estimating the growth of the fetus and doppler velocimetry suddenly started showing large for date fetus. The patient was normotensive, non proteinuric and without any medical comorbidities throughout her antenatal period. We did Oral glucose tolerance test at every trimester to rule out diabetes mellitus. Serial growth scans done at 28, 30, 32 and 34weeks all showed the fetus to be large for gestational age. At 37 weeks and 4 days, the patient delivered a viable female infant weighing 3100 g via caesarean section and postpartum examination of the placentas and membranes showed two placentas with fused umbilical cord. Two placentas were almost equal in size and there were 2 cord insertions, 1 into each placenta. The cord at each of the placental disc had marginal insertion site and main placental disc cord had 2 arteries with one vein (3 vessel-cord) whereas side placental disc cord had one artery with one vein (2 vessel-cord).

Keywords: Two placentas, Fused umbilical cord, Vanishing twin, Succenturiate lobes, Artificial reproductive techniques

INTRODUCTION

Two placentas are rare in pregnancies, including succenturiate placenta.[1] Two placentas with fused umbilical cord forming 3 vessels cord at the fetal end which has its own insertion site to each placental disc is an extremely rare case in a singleton pregnancy. Here, we report two placentas in singleton pregnancy with fused umbilical cord in the pregnant woman conceived through IVF with ovum donation in a FET cycle.

CASE REPORT

A 37-year-old woman, height of 152 cm, gravida 0, para 0, conceived by IVF with ovum donation in a FET cycle with two embryos transferred, visited our clinic regularly during the antenatal period. The 1st trimester scan at 6 weeks showed DCDA twin but at 11 weeks combined 1st trimester screening test, the scan showed single fetus with demise of the second twin. The 1st trimester scan and anomaly scan were absolutely normal and did not reveal any double placenta. Later the ultrasound showed the second twin to have become a reabsorbed vanishing twin with single placenta only. The last ultrasound scan done for estimating the growth of the fetus and doppler velocimetry suddenly started showing large for date fetus. The patient was normotensive, non proteinuric and without any medic al comorbidities throughout her antenatal period. We did oral glucose tolerance test at every trimester to rule out diabetes mellitus. Serial growth scans done at 28, 30, 32 and 34 weeks all showed the fetus to be

large for gestational age. At 37 weeks and 4 days, the patient delivered a viable female infant weighing 3100 g via caesarean section and postpartum examination of the placentas and membranes showed two placentas with fused umbilical cord. Two placentas were almost equal in size and there were 2 cord insertions, 1 into each placenta. The cord at each of the placental disc had marginal insertion site and main placental disc cord had 2 arteries with one vein (3 vessel-cord) whereas side placental disc cord had one artery with one vein (2 vessel-cord). Among the two placentas, it was difficult to differentiate main placenta which supply fetus because of the individual umbilical cord of each placenta and the complexity of two umbilical cords in amniotic cavity (Figure 1).

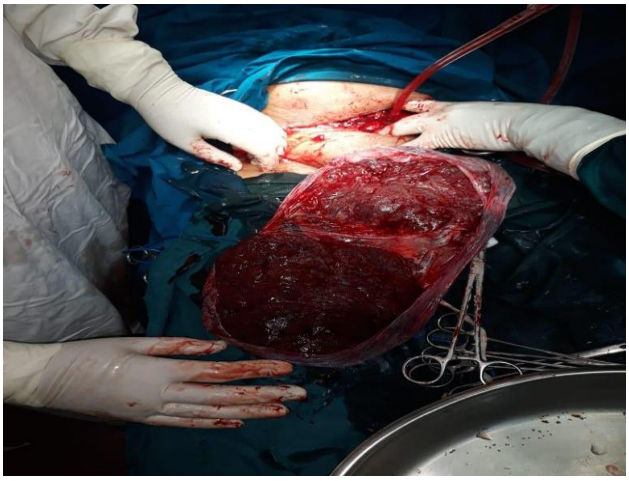

Figure 1: Two separate placental discs-anterior and posterior, respectively. Side placental disc with cord insertion site-anterior. Main placental disc with cord insertion site-posterior.

At 37 weeks and 4 days, the patient delivered a viable female infant weighing 3100 g via caesarean section with antenatal ultrasound diagnosis of large for date fetus and an Apgar score was 9/10 at 1 and 5 minutes. Inspection of the postpartum placentas, membranes, and cord confirmed it to be a double placenta. The placenta consists of two placental discs -13×16×3 cm sized main disc and 13×12×2.5 cm sized side disc, respectively-and there were 2 cord insertions, 1 into each placenta. The cord at each of the placental disc had marginal insertion site and main placental disc cord had 2 arteries with one vein (3 vessel cord) whereas side placental disc cord had one artery with one vein (2 vessel cord) (Figure 2). The umbilical cord had total length of 22 cm and the umbilical cord of the side placental disc was fused at the insertion site of the main umbilical cord forming normal 3 vessel cord at the fetal end. The fused umbilical cord measured 10 cm in length and 0.7 cm in diameter.

After delivery, the baby was taken for whole body X-ray and abdominal ultrasound to exclude fetus in fetus and 2-D echocardiography was also taken to exclude cardiac input overloads resulted from two placentas. No abnormalities were found in the evaluation of the infant.

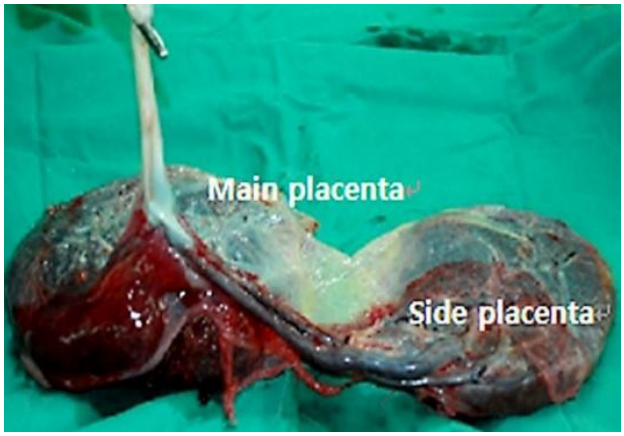

Figure 2: Side placental disc with cord insertion site-anterior. Main placental disc with cord insertion site-posterior.

DISCUSSION

Two placentas are rare in pregnancies, including succenturiate placental. Two placentas with fused umbilical cord forming 3 vessels cord at the fetal end which has its own insertion site to each placental disc is an extremely rare case in a singleton pregnancy. There was only one case of a duplicated placenta and bifurcated umbilical cord in a singleton pregnancy, but this case was not related with vanishing twin.[2] Therefore, this present case may be the first case which describes two placentas with fused umbilical cord that is related with conception through IVF with ovum donation in a FET cycle.

A twin pregnancy case was resulted from IVF-ET with one normal pregnancy and one gestational sac containing no embryo. A relationship between placenta morphologic features and the superficial implantation and/or inadequate orientation of the blastocyst after IVF has been proposed.[3] Considering the fact that this present case was resulted from IVF-OD-FET, these well-known relationships between placental morphology and IVF-OD-FET could account for the two placentas in this case.

According to classification of placental morphology, two separate placentas of this case could be considered as succenturiate placenta which provide another possible hypothesis for this case.[4] Presenting on ultrasound as a small section of placental tissue distant to the main placental body, they are thought to represent a form of trophotropism of the placenta. It is believed that the placenta recedes from areas of inadequate blood supply such as fibroids and may experience some proliferation of villi on the other placental margins. Thus, trophotropism may result in a separated, or succenturiate, section of the placenta.[5] Suzuki et al reported that the incidence of succenturiate lobes of placenta in twin pregnancies was significantly higher than that in singleton pregnancies.[6] Furthermore, in their earlier study with singleton pregnancies, Suzuki and Igarashi also reported the frequency of maternal age >35 years and history of

infertility using IVF in patients complicated by succenturiate lobes of placenta were significantly higher than those without succenturiate lobes of placenta.[7] However, the diagnosis of succenturiate lobes of placenta requires the additional placental lobe that is much smaller than the largest lobe of placenta macroscopically and the presence of subchorionic vessels between the main placental disk and the accessory lobe confirmed by placental pathologist. In this case, the placentas were almost equal in size and placed on both anterior and posterior portion of the uterus as seen intraoperatively. The only connection between the two placental discs was the free-floating, fused umbilical cord without connection of subchorionic vessels. Thus, in this case, a succenturiate lobe could be considered according to the placenta classification, but this special morphology does not match with succenturiate lobes of placenta that could explain true duplicated placentas.

In this case, repeated antenatal ultrasound examination did not reveal any double placenta. During the process of reabsorption, fetus in fetus, which was first described by Meckel, was thought to be ruled out for continuously developing side placental disc and fused umbilical cord. Fetus in fetus is a rare condition in which a malformed parasitic twin was found inside the body of its partner, usually in the abdominal cavity. It represents an aberration of monozygotic diamniotic twinning.[8] We considered the possibility of fetus in fetus with two placentas. However, in this case, except the second twin becoming a reabsorbed vanishing twin, no abnormalities were found during the repeated antenatal ultrasound examinations and the findings of whole-body X-ray and abdominal ultrasound for the neonate were normal. Furthermore, neonatal 2-D echocardiography of the infant was also normal.

CONCLUSION

We should be careful about dealing cases like double placenta which were not present since the beginning but diagnosed during the latter half of the pregnancy, for the betterment of the patient and her health.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Banerjee S, Dutta A, Dessa D. Double placenta in a singleton pregnancy: a case report. Int J Reprod Contracept Obstet Gynecol 2026;15:349-51.