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Case Report

Successful vaginal delivery after 7 weeks of expectant management following twin-to-twin transfusion syndrome quintero v with marginal placenta previa: a case report

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ABSTRACT

There have been no cases reported twin-to-twin transfusion syndrome (TTTS) complicated with placenta previa. TTTS with prolonged intrauterine fetal death/IUFD could lead to neurological damage sequelae for another fetus. The management of TTTS varies. However, intervention resources availability needs to be considered and management of complex TTTS requires specific strategies. We report a case of A 28-year-old G4P1A2 of 8 months gestation presented with painless antepartum hemorrhage without labor signs. Fetomaternal ultrasound revealed: gemelli with lambda sign (+). The first fetus is alive, head presentation, 30-31 gestational weeks, marginal placenta inserted on the edge internal uterine ostium, single deepest pocket 8.5 cm, Cor 4 chambers view equal, renal, vesica urinaria, umbilical artery, middle cerebral artery-peak systolic velocity (MCA-PSV) were normal. The second fetus is a stuck twin and had been IUFD for 2 weeks. She had undergone expectative management with tocolytics, corticosteroid and MgSO4, as well as close and regular clinical and laboratory such as hematologic profile observations. At 37-38 gestational weeks, she came to outpatient polyclinic for a control. Vaginal delivery was arranged. The first baby was born normal; monitored regularly for 6 months, neurological complications and other sequelae were not found; monitored regularly, while the second baby was macerated (stage III). Expectative management followed by vaginal delivery since 37 weeks of gestation can be performed as indicated in TTTS Quintero V. Informed consent regarding neurological sequel in another fetus is necessary along with close and regular monitoring of the mother, fetus, and newborn to produce a better outcome.

Keywords: Case report, Placenta previa, Pregnancy, Twin to twin transfusion syndrome

INTRODUCTION

In literature, there have been no cases reported twin-to-twin transfusion syndrome (TTTS) Quintero V complicated with marginal placenta previa. TTTS has become the major complication of monochorionic diamniotic twins resulting as a consequence of unidirectional blood flow through deep arteriovenous anastomoses. The work-up diagnosis of TTTS and placenta previa are confirmed by ultrasonography findings.[1-3] The management of TTTS is widely varied; from conservative to laser fetoscopy and based on Quintero classification staging. Selective laser photocoagulation (SLP) is thought to be the most cost-effective treatment.[4,5] However, intervention resources availability especially in resource-limited settings needs to be considered. Furthermore, untreated TTTS has very high morbidity and mortality rate.[1,6] TTTS with prolonged

intrauterine fetal death (IUFD) in this case could lead to neurological damage sequelae for the recipient fetus.[7] Management of complex TTTS in limited settings requires specific strategies, as will be discussed further in this case report.

CASE REPORT

We report a case of A 28-year-old G4P1A2 of 8 months gestation presented with painless antepartum hemorrhage about three 29 cm pads since 6 hours before admissions without labor signs. She had the same previous history of bleeding two times. She had a family history of multiple pregnancies (her mother and grandmother). She also complained that her abdomen was larger than normal pregnancy and the fetal movements were more pronounced. No other medical comorbid was found. She had undergone prenatal care (PNC) routinely every month.

Table 1: Quintero staging of TTTS.[1-5]

Stage	Description
I	SDP > 8 cm (polyhydramnios) in a sac with SDP < 2 cm (oligohydramnios in another sac)
II	Stage I with no adequate vesica urinaria visualization in 60 minutes of ultrasound examination
III	Stage II and the absent/reversed end diastolic volume of umbilical artery, umbilical venous pulsations and ductus venosus
IV	Ascites or frank hydrops in either twins
V	Demise of either fetus

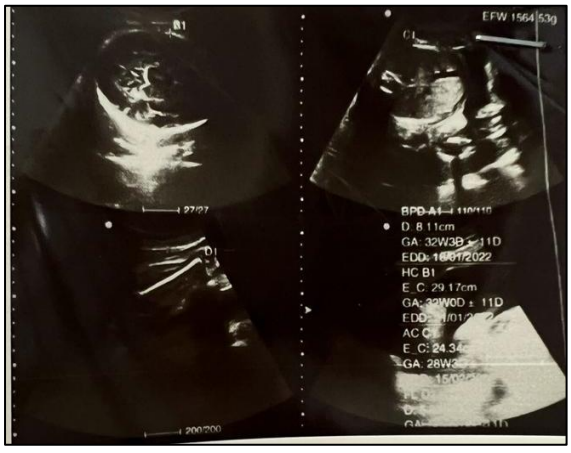

Figure 1: Fetomaternal ultrasound revealed TTTS Quintero V with marginal placenta previa in 30-31 weeks of pregnancy.

The results of the general examination were within normal limits and obstetric examination gave the impression of multiple pregnancy with no fetal heart rate in the 2nd fetus. Speculum examination showed fluxus around the external uterine ostium. From laboratory findings, the patient was leukocytosis while the other hematologic profile such as Hb, hematocrit (Hct), thrombocyte, prothrombin time (PT), INR, and APTT were within normal limits. AST and ALT were within normal limit and immunoserology tests of HIV and HBsAg were non-reactive and negative respectively.

Figure 2: Monochorianic diamniotic placenta of the fetuses.

Figure 3: The condition of donor fetus (2nd fetus) was macerated at stage III.

Fetomaternal ultrasound revealed

Gemelli with lambda sign (+). The first fetus is alive, head presentation, 30-31 gestational weeks, marginal placenta inserted on the edge internal uterine ostium (Figure 1), single deepest pocket (SDP) 8.5 cm, Cor 4 chambers view equal, renal, vesica urinaria, umbilical artery, middle cerebral artery-peak systolic velocity (MCA-PSV) were normal. The second fetus is a stuck twin and had been IUFD for 2 weeks.

In this case, the MCA-PSV was within normal limits and confirmed that there was no sequel to Twin Anemic-Polycythemic Syndrome (TAPS). No neurologic complications were found in the first child. Usually, 18%

of single fetal demise cases are associated with the complication sequelae of another fetus.[7] No congenital abnormalities were found in the 2nd fetus such as acardiac twins. No Twin Reversed Arterial Perfusion Sequence (TRAP) sequel was also founda in this case.

She was diagnosed with TTTS Quintero V (Table 1) with marginal placenta previa in 30-31 weeks of pregnancy (multiple pregnancy/Gemelli with the monochorionic diamniotic placenta (Figure 2), 1st fetus is alive with head presentation and 2nd fetus is IUFD) as shown in Figure 3.

She was admitted to the hospital and had undergone expectative management with tocolytics (Nifedipine 3×20 mg), corticosteroid (Dexamethasone for 48 hours), and MgSO4 as a neuroprotector, as well as close and regular clinical, laboratory such as hematologic profile, and fetal observations (fetal heart rate, uterine contraction, non-stress test, fetomaternal ultrasound, and biophysical profile). After 7 days, she was discharged. However, she came up with premature contractions and she was admitted for the second time to the hospital with the same management. After 14 days of treatment, she was discharged. At 37-38 gestational weeks, she came to the outpatient polyclinic for a control. Vaginal delivery was arranged.

The 1st baby's (recipient twin) birth weight was 2590 grams with an Apgar 6/8 score of 1 and 5 minutes. The 2nd baby's (donor twin) was macerated (stage III) as shown in Figure 3. The first baby was monitored regularly for 6 months and no neurological complications and other sequelae were found.

DISCUSSION

TTTS complicated with placenta previa as in this case, the management remains to be a challenge since one of the fetuses had undergone IUFD for 7 weeks but the pregnancy had not been aterm yet. Therefore, a priority scale was needed in determining the best management, including the proper time and type of termination.

In this case, the bleeding was relatively moderate, not accompanied by labor signs, the type of placenta previa was marginal, and the fetuses were still preterm (30-31 weeks) from a G4P1A2 mother thus it became an indication of conservative management and expectant management with tocolytics, corticosteroid for fetal's lung maturation, and neuroprotector as mentioned in this case.[8]

In principle, the recommendation of delivery timing in monochorionic diamniotic gemelli is 36+0 – 36+6 weeks. However, American College of Obstetrics and Gynaecology (ACOG) and Society for Maternal Fetal Medicine (SMFM) suggest a gestational age of 34+0 to 37+6 weeks as the best delivery timing.[9] Before choosing a delivery method, it is important to confirm the position of fetal lie and the presentation of the fetus using ultrasound. In this case, the patient had children with head presentations so that vaginal delivery could be performed at later termination. Although in this case the patient had marginal placenta previa, it is necessary to assess whether the placenta previa had already disappeared so that it could be determined whether the delivery could be performed vaginally or abdominally.

Based on the literature, expectant management followed by spontaneous termination in IUFD has several advantages. First, blood flow to the uterus decreases after IUFD, leading to softening and loosening of fetal tissues and a reduction in placental size. Reduction of uterine volume reduces uterine flexion, which can lead to spontaneous resolution of an incarcerated uterus. Second, expectant management allows for spontaneous labor and subsequent vaginal delivery. It is known that spontaneous labor usually begins within 3 weeks of fetal death in about 90% of cases.[10] If patients experienced spontaneous labor during expectant management they were allowed to have a trial of a vaginal delivery without medical intervention such as in this case. However, careful monitoring is required as labor begins. If labor does not progress as expected, the increased risk of uterine rupture should be considered. Therefore, a cesarean delivery is necessary as indicated.

As conclusions, expectative management followed by vaginal delivery since 37 weeks of gestation can be performed as indicated in TTTS Quintero V such as in limited-resource settings. Informed consent regarding neurological sequelae in another fetus is necessary along with close and regular monitoring of the mother, fetus, and newborn to produce a better outcome.

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