

Macrosomia in weight discordant twin: A rare case scenario

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Abstract

Macrosomia which is defined as birth weight of 4000 grams and more is mentioned to be exceptionally unlikely complication among twins. Discordance based on birth weight $\geq 20\%$ with both twins large for gestational age is rarely reported. I reported this as the unlikely macrosomia complication and the rarely reported discordant case scenario among large for gestational age twins happened in this patient.

Keywords

birth weight; weight discordant; macrosomia complication; twin macrosomia

Introduction

Almost all complications of pregnancy are common in twin pregnancy with exception of macrosomia and post term [1]. Growth abnormality is one of these complications. This can manifest by one or both twins being small for gestational age or one of the twins being significantly smaller than the other [2]. This significant weight difference is called weight discordant which is commonly defined as $>20\%$ percent birth weight difference [1]. This is found in 15 percent of cases and two-third of the smaller twins have <10 th percentile birth weight, the remaining nearer appropriate size for gestational age. The larger twin may have either small or appropriate for gestational age [1,2]. To my reading, I found only one discordant case report with one baby macrosomic and the smaller baby with normal birth weight [3]. I report this since twin macrosomia (4600 grams) and normal (3600 grams) birth weight pair based on singleton weight standard is a rare occurrence.

Case Presentation

This was a 26 years old gravid 4 para 3 (all alive) mother presented to our hospital with pushing down pain of two hours duration. Her gestational age calculated from her last normal menstrual period was 38+1 weeks. She had antenatal follow up at private clinic and told to have twin pregnancy. She had obstetric ultrasound scanning at same clinic but was not informed about the weight of fetuses, presentation or chorionicity. She was not also informed about mode of delivery and possible complications. All her pre-

vious deliveries were singleton with no significant ante partum, intrapartum or postpartum complication. She has no chronic medical illness. She came to our hospital since the private clinic where she had antenatal care does not provide delivery service.

On physical examination, she was acutely sick looking in labor pain with blood pressure of 130/80 mmHg, pulse rate of 92 beats per minute, respiratory rate of 20 breaths per minute and temperature of 37.1 degree centigrade. She had 40 week sized gravid uterus with multiple fetal poles palpable, first twin breech, fetal heart beat 136. Second twin was cephalic with fetal heart beat of 148. She had also three uterine contractions every ten minutes lasting forty to fifty seconds. On pelvic examination cervix is 3 cm dilated, 60-70% effaced, intact membrane, palpable breech with left sacrum position at level of ischial spine. She has trace pedal pitting edema. Obstetric ultrasound confirmed twin pregnancy with first twin breech and estimated fetal weight of 4200 grams. Second twin was cephalic with estimated fetal weight of 3500grams. Placenta is on the fundal part of uterus and difficult to visualize chorionicity. Amniotic fluid was adequate and gross body movement seen for both twins.

Her blood group was A+, blood sugar 78mg/dl and hematocrit of 38%. Tests were also negative for HIV, hepatitis (HBsAg) and syphilis (VDRL). Then emergency cesarean section was decided and done under spinal anesthesia for indication of twin –A non vertex. Discordant twins with weight difference of 21.7% were delivered. Twin A was 4600 grams male with APGAR of 8 and 9 at first and fifth minutes respectively. Twin-B was 3600 grams female with APGAR of 6 and 8 in the first and fifth minutes respectively. Two placentas were fused together with comparable size and no gross anomaly seen.

The newborns immediately sent to neonatal intensive care unit for evaluation. There was no gross congenital anomaly seen on both twins. Twin–B was admitted to neonatal intensive care unit with suspected early neonatal sepsis and twin–A sent back to mother side. Twin–b was treated for 48 hours with antibiotics and turn back to mother side with improvement. Postpartum blood sugar of the mother was also determined and was 82mg /dl. At third post operative day, the mother and neonates discharged with good condition from the hospital with advice for postnatal follow up.

Discussion

Excessive fetal growth could be described in terms of large for gestational age or macrosomia. Large for gestational age is applied for birth weight equal to or greater than 90th percentile for a given gestational age while macrosomia implies absolute birth weight equal or greater than 4000 grams or 4500 grams , regardless of gestational age [4]. Growth rate is not significantly different in twins compared with singletons during first and second trimesters. However, twin pregnancies have slower growth rate than singleton pregnancies during third trimester due to placental crowding and nutrient competition [1,5]. To address this different growth pattern, researchers develop adjustable birth weight standard for twins that has an excellent match with the observed birth weight [5]. From this birth weight standard graph, both babies in my case were large for gestational age (>90th percentile of observed at 38 weeks gestational age for blacks: 3325g). As a reason, this is a rare case scenario with both twins large for gestational age and discordant.

Macrosomia in singletons may be related to: Preexisting diabetes mellitus, uncontrolled gestational diabetes mellitus, maternal prepregnancy obesity, excessive gestational weight gain, maternal interpregnancy weight gain, prior macrosomic infant, post term and male [4,6,7]. Whether these risks related or not to twin pregnancy is controversial. One study shows that gestational diabetes did not increase risk of macrosomia or discordance in twins [8]. Macrosomia is associated with maternal and fetal morbidities. Maternal risks associated with macrosomia include: cesarean section, postpartum hemorrhage, genital laceration. Fetal morbidity and mortality includes: clavicular fracture, brachial plexus injury, depressed 5- minute Apgar score, increased rate of admission and prolonged admission (greater than 3 days) to neonatal intensive care unit. Macrosomic newborns are more likely to be overweight and obese later in life compared with normal weight newborns [4]. Complication associated with macrosomia in twins is not clear, but I believe at least equal emphasis as singletons should be given. Thus screening, treating complications and long term follow up warranted to detect metabolic abnormalities. Additionally, it is good trying to identify possible causes of macrosomia. In this patient it was difficult since she came during labor and antenatal care was at private clinic with incomplete evaluation which ended up with inadequate birth preparedness and complication readiness.

Discordance in weight could be caused by sex difference, unequal placenta implantation site and in utero crowding. Neonatal mortality rate of the smaller twin increases as with increasing discordance even where both twins are appropriate for gestational age. Large twins of discordant pairs are also at increased risk of neonatal mortality [1,7]. It is not clear whether neonatal mortality increased or not in case of one or both twins of large for gestational age in the presence of discordance. This lack of information could be due to the rare occurrence of the case. In our case sex difference and placental implantation in suboptimal site could be the reasons for weight discordant.

Diagnosis of twins better to be made early to follow and detect associated maternal and perinatal complications there by to intervene accordingly. In our case fetal weight estimation, presentation and chorionicity were not determined during antenatal care. The mother was not informed about mode of delivery and was not screened for diabetes mellitus during antenatal care.

Conclusions

In conclusion, though macrosomia is explained as exceptional unlikely complication of twin pregnancy, still it is possible as one of these twins is macrosomia. Discordance with normal birth weight-macrosomia twin pairs is a rare case scenario which happened in this patient. Both twins are large for gestational age on adjustable neonatal birth weight standard for twins [5]. Diagnosis of twin will not be complete by only counting numbers of fetuses. Rather it is good to diagnose early and anticipate possible complications there by to have plan ahead of perinatal loss and maternal morbidity by intervening accordingly or referring early to appropriate setups.

Acknowledgement

I would like to thank the client who gave me her consent to publish her delivery conditions and Ha-

wassa University Comprehensive Specialized Hospital allowing me to publish this case report.

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Manuscript Information: Received: September 14, 2019; Accepted: October 23, 2019; Published: October 31, 2019

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Citation: Adow MT. Macrosomia in weight discordant twin: A rare case scenario. *Open J Clin Med Case Rep*. 2019; 1598.

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