Spontaneous Monochorionic Quadramniotic Pregnancy: A case report

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Abstract

Quadruplet pregnancy is very rare. All these pregnancies are multizygotic pregnancies. Spontaneous monochorionic quadruplet pregnancy is extremely rare, quoted incidence being 1 in 15 million. One such case is reported here where a primigravida, who conceived within one year after marriage spontaneously, remained uninvestigated till 24 weeks was then diagnosed as triplet pregnancy.

Keywords: Monozygotic, Quadruplet, Spontaneous, Quadramniotic, Hellin's rule.

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Introduction

Quadruplet pregnancy is very rare. The incidence, according to Hellin's rule being 1 in 5,12,000(1) since the use of ovulation induction drugs the incidence is increasing in patients treated for infertility. But all these pregnancies are multizygotic pregnancies. Spontaneous monochorionic quadruplet pregnancy is extremely rare, quoted incidence being 1 in 15 million(2).

Case History

Primigravida, aged 22 years, reported for first antenatal checkup at 16 weeks in antenatal OPD. She was married since 1 year and it was a spontaneous conception. Urine pregnancy test was done after 2 months at home and pregnancy was confirmed. There was no visit to any practitioner till 16 weeks gestation. No contraception was used after marriage. Patient was from low socioeconomic status and there was no history of multiple pregnancies in family. General and systemic examination did not reveal any abnormality but uterine size was more than period of gestation. Cervix and vagina were healthy on per speculum examination. USG and other investigations were advised but patient did not come for follow-up with USG and other reports. At 23 weeks of gestation, patient came to OPD for antenatal check-up. On general examination pallor was present and on per abdomen examination height of the uterus was more than period of amenorrhoea and multiple fetal parts were felt. On per vaginal examination cervix was 1 cm dilated and 30 percent effaced. Patient was advised admission in view of multiple pregnancies with moderate anemia. USG was done and revealed triplet pregnancy. Patient was treated for anemia; parenteral iron was given after calculating required dose. Patient stayed for 2 days and was not willing to stay thereafter and went against medical advise. At 27 weeks gestation patient directly reported to casualty with pain in abdomen. On examination vital signs were stable, uterus was 36 weeks pregnant size and patient was getting good uterine contractions. Thus, patient was admitted. Uterus was 36 weeks, tense and presentation of the baby could not be made out. On per vaginal examination cervix was fully effaced, fully dilated and first baby was presenting by vertex at '0'station. Patient was admitted with the diagnosis of primigravida with triplet pregnancy in second stage of labour. She was immediately shifted to labour room and she delivered 3 preterm female babies at the interval of 5 to 7 min, all by vertex. After the 3 babies were delivered uterine size was still 28 weeks, to our surprise, 4th bulging bag of membranes was felt on per vaginal examination and patient delivered 4th female child by vertex after 7 min. The apgar scores of the 4 babies at 1 minute were 7/10, 6/10, 7/10, 8/10 respectively and 5 min were 8/10, 9/10, 8/10, 9/10 respectively and babies were weighing 600 gm, 700 gm, 680 gm and 740 gm respectively.

There was no postpartum hemorrhage and none of the four female babies had obvious congenital anamolies. Placental examination confirmed monochorionic quadramniotic placenta weighing 700 gm (Fig. 1).

Fig. 1: Placenta with 4 sacs

Histopathology confirmed monochorionic and quadramniotic pregnancy (Fig. 2). Each baby had blood group O positive. All babies were shifted to NICU. 2 of them could not survive because of prematurity with hyaline membrane disease and pulmonary hemorrhage and 2 babies were doing well at the time of reporting.

Fig. 2: Histology of dividing membrane

Discussion

The reported incidence of spontaneous monozygotic quadruplet pregnancy is 1 in 10 to 15 million pregnancies[2]. Monozygosity increases markedly the likelihood of early fetal losses. This may explain in part the apparent rarity of viable monozygotic quadruplet pregnancies. Spontaneous OHSS is extremely rare event and cases are reported with quadruplet pregnancy complicated with OHSS with spontaneous ovulation[3]. Multifetal pregnancies are prone for complications like preterm labour and preeclampsia. The loss of entire pregnancy is 50% for quadruplet pregnancy. Only 2 documented cases with sonographic workup of placenta and successful peri-natal outcome were reported till 2013[4].

Gestational age at delivery and birth weight are inversely proportional to the number of fetuses in the uterus. Birth weight of quadruplets and quintuplets are significantly lower than in triplet pregnancy and early perinatal mortality is significantly higher in quadruplet and quintuplets. The average gestational age was 30 weeks for quadruplet pregnancy and mean birth weight is 1414[5]. Management recommended on diagnosis of multiple pregnancy include counseling of selective reduction, bed rest, beta mimetic, high protein diet, Dexamethasone in 2nd trimester, selective circlage and intensive ultrasonography control which include Doppler and biophysical parameters. Many authors consider cesearean as the most suitable modality of birth. In our patient diagnosis of triplet was done but ideal management could not be initiated because of lack of cooperation of patient and her family in spite of proper counseling. For the successful management, in addition to the quality obstetric management, patient education, socioeconomic support, family and emotional support play a very important role which were lacking in this patient. And thus though patient was diagnosed 16weeks, the window of opportunity was lost.

Multiple studies have suggested that multiple births may experience excess morbidity including low birth weight, prematurity and higher risk for major birth defects. However in our case, in spite of lack of rest and antenatal supervision patient did not have any of the medical complication such as PIH, GDM, UTI and anemia and pregnancy was carried till 27 weeks[6]. This case is published because of rarity of occurrence of spontaneous, monochorionic quadramniotic pregnancy and once again stressing the importance of correct antenatal management and patient education in prevention of perinatal morbidity and mortality.

Clinical significance

Spontaneous quadruplet pregnancy does occur and need early diagnosis and timely management. Diagnosis of few sacs can be missed on USG especially late pregnancy and one must be prepared to deliver higher order pregnancy beyond USG diagnosis.

Conclusion

From this case, it is concluded that spontaneous quadruplet pregnancy can occur and timely diagnosis and management is important. Pregnancy which could progress to 27 weeks without rest could have progressed further if patient would have followed the instructions of treating doctors.

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