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Case Report

Successful outcomes of a monoamniotic twin pregnancy discordant for anencephaly

Sujata Swain^{1*}, Paresh Kumar Jena²

¹Department of Obstetrics & Gynaecology, S.L.N. Medical College, Koraput, Odisha, India

²Department of Internal Medicine, Apollo Hospital, Bhubaneswar, Odisha, India

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*Correspondence:

Dr. Sujata Swain,

E-mail: drsujata74@gmail.com

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ABSTRACT

Mono amniotic twin pregnancy discordant for anencephaly (MATDA) is a rare occurrence. 29-year-old primi gravida was diagnosed with mono amniotic twin one baby anencephaly and other baby normal at 14 weeks of gestation during NT scan. Patient was counselled regarding selective termination & expectant management outcomes. They wanted to continue the pregnancy with expectant management. She developed pregnancy induced hypertension around 30 weeks which was managed by oral labetalol. Caesarean section was performed at 36 weeks of gestation, with first baby normal & second baby Anencephaly. The normal newborn infant was discharged from SNCU without any complications. Expectant management of a mono amniotic twin gestation discordant for anencephaly diagnosed at the first trimester is associated with a favourable outcome for the unaffected foetus.

Keywords: Mono amniotic twin, Anencephaly, Pregnancy induced hypertension, Expectant management

INTRODUCTION

The term mono chorionic refers to a multiple gestation with one placenta, whereas mono amniotic describes the presence of only one amniotic cavity. Mono amniotic twin pregnancies are monozygotic. Mono chorionic mono amniotic pregnancies are characterized by the presence of two foetuses of the same gender, a single placenta, and the absence of an inter twin membrane.

Mono amniotic twins are rare, they occur in about 1 in 10000 pregnancies and, as such, constitute 5% of mono chorionic pregnancies and are at extremely high risk of pregnancy complications and foetal loss.¹

In addition to risk of preterm delivery and growth disorders present in all twin gestations, mono chorionic mono amniotic pregnancies are at risk of congenital anomalies, twin transfusion syndrome, and an increased risk of peri

natal mortality related to cord entanglement.² We report a case of mono amniotic twin diagnosed to be discordant for anencephaly with good neonatal outcomes of healthy foetus managed with expectant treatment.

CASE REPORT

A 29-year-old primigravidae came for antenatal check-up in ANC clinic with 8 weeks of amenorrhea with nausea vomiting in pregnancy. A dating scan performed shows two foetal pole with cardiac activity diagnosed to be mono amniotic mono chorionic twins. She was managed with folic acid 10 mg with anti-emetics. During routine NT Scan at 14 weeks by 2D ultrasound revealed that the first twin was within the normal ranges for the gestational age but the second twin showed anencephaly. There was one placenta and no amniotic membrane separated the two foetuses. The parents received counselling regarding mono amniotic twin pregnancy, anencephaly of a foetus and

complication. They refused to do selective foetal termination wanted to continue in view of another foetus being normal. The patient underwent fortnightly prenatal medical examinations at the outpatient clinic. A TIFA ultrasound conducted at 22 weeks did not show any abnormal finding except for one foetal anencephaly of one twin.

She was given normal iron, calcium and folic acid supplementation. All blood parameters were in normal range. She developed pregnancy induced hypertension at 30 weeks, for which oral labetalol 100 mg thrice daily was started. A routine interval growth scan performed at 32 weeks showing normal parameters of healthy baby with other being anencephaly. She followed up with fortnightly obstetrics scan for foetal complication.

At 36 weeks obstetrics scan revealed healthy baby with foetal weight of 1956 ± 245 gm, other baby anencephaly with polyhydramnios with normal doppler indices.

Mother developed severe PET for which she was hospitalised. A single course of steroids for lung maturation were given immediately after hospitalization.



Figure 1: Delivery of anencephaly.



Figure 2: Normal newborn, anencephaly baby, monochorionic placenta.

The heartbeat of the two foetuses were 140 beats/min and 130 beats/min, respectively and showed normal variability. At 36 weeks a Caesarean section was performed under spinal anaesthesia. The first baby female infant had a weight of 1910g, delivered by vertex and her Apgar scores at 1 and 5 minutes were 6 and 8, respectively. No gross abnormalities were observed. The second infant was anencephaly weighted 1,780 gm and her Apgar scores at 1 and 5 minutes were 1 and 0, respectively (Figure 1). No other gross abnormalities were observed in the anencephalic twin (Figure 2). The first twin was moved to the neonatal intensive care unit immediately after caesarean section and managed for preterm neonate. She was discharged without any complications on the 12 day after birth. Mother post operative period was uneventful.

DISCUSSION

A mono chorionic mono amniotic (MCMA) twin pregnancy is a subtype of monozygotic twin pregnancy. These foetuses share a single chorionic sac, a single amniotic sac, and a single yolk sac. Mono amniotic pregnancies result from the division of the embryonic disc between days nine and 13 post-fertilization, therefore both foetuses share the same placenta and amniotic sac.³ Mono amniotic twin pregnancies can be diagnosed most accurately when one yolk sac with two embryos or foetuses is found on the ultrasound image during the first trimester of pregnancy. After this period, they are diagnosed through ultrasound when no inter-twin membrane is present between twins with a single placenta and their gender is the same.⁴

It accounts for the (~5%) of monozygotic twin pregnancies and ~1-2% of all twin pregnancies. The incidence is ~1 in 10000 of all pregnancies.⁵ The occurrence of Mono amniotic twin pregnancy discordant for anencephaly (MATDA) could be estimated to occur once every 5–400 million livebirths.⁶

These high-risk pregnancies may be complicated by a variety of conditions, including twin-twin transfusion syndrome (TTTS), twin reversed arterial perfusion sequence, intrauterine growth restriction (IUGR), congenital malformations, and exclusive to mono amniotic pregnancies, umbilical cord entanglement⁷. The perinatal mortality rate is as high as 30%.³

This high mortality was known to be caused by prematurity, twin to twin transfusion syndrome, congenital anomalies, intrauterine growth restriction, and umbilical cord entanglement.^{8,9} Foetal death of normal twin in MATDA can be attributed to two theory proposed. One is abrupt, uncoordinated movement of the anencephalic foetus can cause further stretching and compression of the umbilical cords that lead to foetal death of the normal twin.¹⁰ Second cause is associated with poly hydramnios caused by impairment of the swallowing reflex of the anencephaly foetus. Selective termination of the anencephaly twin and transaction of its umbilical cords for

preventing intrauterine death of the structurally normal twin is aggressive management if it is diagnosed in first trimester.¹⁰ However, this management is difficult with risk of potential complications, including rupture of membranes and requires high levels of skills. Management of these cases may be a dilemma to most obstetricians. In our case selective termination was denied by patient & pregnancy continued with conservative treatment. In case of expectant management, preterm delivery at 32 weeks of gestation, when risks of prematurity are burdened, can be the choice for preventing death of the normal twin.¹⁰ In our case, conservative management was undertaken upto 36 weeks with vigilant fetomaternal monitoring and the neonatal outcome of unaffected normal foetus was good.

CONCLUSION

Expectant management of a mono amniotic twin gestation discordant for anencephaly diagnosed at the first trimester is associated with a favourable outcome for the unaffected normal foetus.

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