

## Anencephalic Twins: Rare Occurrence in Twin Pregnancy

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### Abstract

Anencephaly is a uniformly lethal and untreatable condition which is characterized by absence of cerebral hemisphere and cranial vault above the base of the skull and orbits. It requires termination of pregnancy soon after the diagnosis is made. It can be diagnosed in the late first trimester, and with adequate visualization, virtually all cases may be diagnosed in the second trimester.

Anencephaly occurs more frequently in twin pregnancies than in singletons. It is usually discordant in twin pregnancy. This usually creates management dilemma for the attending obstetrician. Twin anencephaly is a very rare event.

We report this case as it is very rare occurrence in twin pregnancy. The case also demonstrates the importance of early ultrasound examination for pregnant mothers so as to pick this lethal malformation and terminate the pregnancy earlier which in turn minimizes potential maternal morbidity and mortality.

**Keywords:** Anencephaly; Twin pregnancy

### Introduction

Anencephaly is a fatal congenital developmental abnormality characterized by absence of cerebral hemisphere and cranial vault above the base of the skull and orbits [1,2]. It is due to the failure of fusion of the cranial neural tube at 24-26 days post fertilization. Overall incidence of anencephaly is 3.8 to 6 per 1,000 births with considerable variation throughout the world [2,3,4].

The introduction of antenatal screening has led to the early diagnosis of anencephalic cases either through the biochemical markers like serum alpha-feto protein or on second trimester the ultrasound scan [3,5].

Multiple gestation accounts for about 1% of all pregnancies [4] and twin pregnancy occurs one in 80 pregnancies [6].

A number of complications develop in twin pregnancies [7] one of which is congenital anomaly. Major congenital anomalies develop in 2% of twin pregnancies [6]. Anencephaly is among congenital malformations complicating twin pregnancies. It is more common in twin pregnancies when compared with singleton pregnancies. Of twin pregnancies, its prevalence is higher in monozygotic twins and those resulting from assisted reproductive technology [5,8].

Anencephaly in twin pregnancy is usually discordant [5,8]. Twin anencephaly is a very rare event. Therefore, here we report anencephaly in both twin fetuses as a rare occurrence in spontaneous twin pregnancies. The case also emphasizes the use of early ultrasound examination as screening method for fatal congenital malformation.

### Case Presentation

A 27 years old gravid III Para II (both alive) mother who does not recall her last normal menstrual period but claims to be amenorrhic for the last 7 and half months referred from private clinic with the impression of twin pregnancy both anencephaly and polyhydramnios. She visited the private clinic for the 1<sup>st</sup> time for antenatal check up where she was evaluated by obstetrician with abdominal ultrasound.

She reported that this pregnancy is heavier than the previous two. She has neither family history of twin pregnancy nor treatment history

with ovulation inducers. She denied history of taking drugs during pregnancy. The previous deliveries were uneventful vaginal deliveries. Her previous medical history was unremarkable.

On physical exam, her general condition was fine. Her blood pressure was 130/90 mm HG. The uterus was 32 weeks sized which was tense and it was difficult to palpate fetal parts. Fetal heart beats were heard at two places but distant. Pelvic exam showed thick, long and uneffaced cervix.

Complete blood count, random blood sugar, urinalysis, renal function test and liver function test were normal. Serology for hepatitis, syphilis and HIV were negative. Serum markers like serum alpha-feto protein were not done.

Obstetrics ultrasound repeated in the hospital showed moderate polyhydramnios and twin pregnancy both anencephaly with gestational ages by femur length of 27 weeks and 4 days and 28 weeks for 1<sup>st</sup> and second twin respectively. Both fetuses were in breech presentation and with positive cardiac activities.

With the impression of twin pregnancy both anencephaly, she was admitted and counseled about her pregnancy and its management. She decided for immediate delivery. Accordingly, 3 doses of 50 micro grams of misoprostol every 4 hours were inserted into posterior fornix. After 5 hours of the last dose, she expelled two anencephalic fetuses [Figure 1] weighing 1600 g and 1500 g. They had also spinal defect [Figure 2]. The placenta was diamniotic dichorionic.

The mother was discharged on 2<sup>nd</sup> postpartum day with advice to start taking folic acid one month prior to her planned pregnancy and throughout 1<sup>st</sup> trimester.

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**Figure 1:** Anencephalic twins at Jimma University Specialized Hospital, 2013.



**Figure 2:** Anencephalic twins with spinal defects at Jimma University Specialized Hospital, 2013.

## Discussion

Anencephaly is untreatable congenital anomaly that occurs more frequently in twin pregnancies than in singletons [5]. Its diagnosis can be reliably made with ultrasound as early as 11 weeks of pregnancy [9]. In our case, the diagnosis was made in early 3<sup>rd</sup> trimester pregnancy during her initial visit to private clinic. This late diagnosis incurs unnecessary cost and may lead to unnecessary intervention. It may be solved by endorsing routine ultrasound exam at least once in early second trimester pregnancy.

Delivery of pregnancy is a common option of management in singleton pregnancies as anencephaly is incompatible with life [5,7]. However, in twin pregnancies; discordance for anencephaly provides a management dilemma [3,5] due to the fact that dealing with normal co-twin is cumbersome. But in our case, both fetuses are anencephalic which necessitate immediate termination so as to prevent or decrease maternal complications.

Anencephaly is multifactorial in origin, with interaction of multiple genes as well as environmental factors. Diet supplementation with folic acid before pregnancy and in the first month is an important preventive measure for this fatal anomaly [1,2,3]. Likewise, our patient was discharged with advice to start folic acid one month prior to pregnancy and continue during the 1<sup>st</sup> one month of pregnancy.

## Conclusion

In conclusion, anencephalic twin can occur in twin pregnancy. Making the diagnosis of this condition is very crucial as it needs immediate delivery of pregnancy so as to prevent or minimize maternal complications.

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