

Dichorionic, Diamnionic Twin Pregnancy Discordant for Anencephaly- A Case Report and Mini Review of the Literature

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ABSTRACT

According to current bibliography, many cases of congenital entities are properly diagnosed and treated due to increased steps of fetal medicine. Ultrasound measuring of NT (Nuchal Translucency) or B level scanning depicts many aspects of fetal lesions. Anencephaly consists one severe and lethal congenital fetal lesion. Ultrasound imaging findings reveal absence of cranial structures, cornerstone of this lesion. The most predisposition factor concerning the diagnosis of such cases represents the level of experience of the fetal medicine specialist.

Aim of our study consists presentation of a case of dichorionic, diamnionic twin pregnancy discordant for anencephaly. Ultimate scope of our depiction reflects proper diagnosis and assiduous therapeutic mapping concerning the viability of the other fetus due to lethal conclusion of the pathologic one.

Keywords

Anencephaly, Twin pregnancy, Ultrasound.

Introduction

Exploring current bibliography, incidence of multiple pregnancies is being increased throughout years [1]. Advanced steps of IVF (In Vitro Fertilization) and mostly pathways of assisted reproduction led medical community to increased rate of multiple gestation.

Each multiple gestation is characterized as high-risk pregnancy due to potential hemodynamic alterations among two fetuses. In cases of monochorionic and monoamnionic twins (TTTS) twin to twin transfusion syndrome consists cornerstone of perinatal complications due to placental vascular anastomoses and blood flow imbalance [2].

Prevalence of monoamnionic twins is estimated between 1 in 5000 and 1 in 25,000 gestations [3]. Prematurity, congenital anomalies and IUGR (Intrauterine Growth Restriction) increased without doubt the incidence of mortality and morbidity [4]. In such cases assiduous perinatal surveillance and monitoring in experienced

fetal medicine department reflects mandatory. Anencephaly represents a severe perinatal complication with most of cases can lead to lethal outcome.

Proper diagnosis depends on ultrasound imaging findings and is strongly accompanied with level of experience of fetal medicine specialist. Many conducted studies have pointed polyhydramnios, severe preterm delivery and fetal demise in cases of twin pregnancies discordant for anencephaly [5]. Aim of our study, consists assiduously depiction of anencephaly in order to establish proper diagnosis and therapeutic mapping concerning the viability of the other fetus.

Case

We present a case of a 43-year-old patient, (G7, P0) with negative gynecologic history, attended our department concerning assiduous pregnancy surveillance. Pregnancy outcome is achieved through assisted reproductive method, particularly IVF (In Vitro Fertilization) during Egg Recipient Method.

All laboratory findings during first trimester of gestation were in normal ranges. Both fetuses have positive heart beat without

signs of pathologic entities. In 11+2 weeks of gestation performed ultrasound scanning, in order to measure the length of NT (Nuchal Translucency) of both fetuses.

Assiduous scanning revealed:

Fetus A:

CRL (Crown Rump Length) 58.0mm, FL (Femur length)9.6mm, AC (Abdomen circumference) 59.0mm, Placenta normal range, Amniotic fluid normal range, Nasal bone not examined, NT (Nuchal Translucency)2.0mm, Depiction of Anencephaly (Figures 1, 2). Statistical possibility for Trisomy 21: 1 to 23, Trisomy 18: 1to 57 and Trisomy 13: 1to 177.



Figure 1: Fetal anencephaly. Ultrasound encephalic deficit depiction.

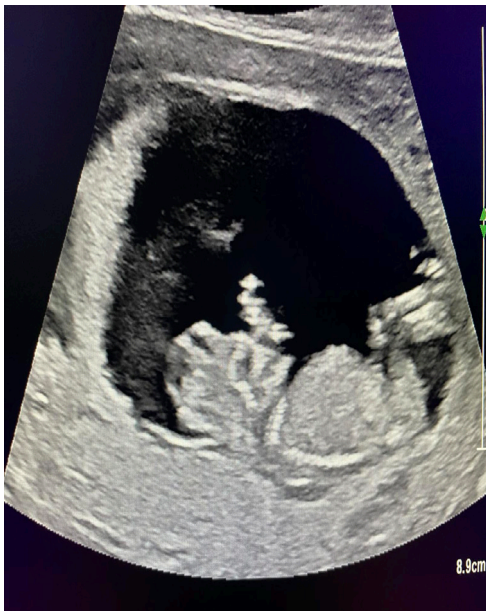


Figure 2: Fetal anencephaly. Ultrasound encephalic deficit depiction.

Fetus B:

CRL (Crown Rump Length)63.0mm, FL (Femur Length)7.1mm, AC (Abdomen circumference)61.0mm, BPD (Biparietal Diameter)19.0mm, Depiction of all cardiac cavities and intraperitoneal organs, Nasal bone examined, NT (Nuchal Translucency)2.5mm, Amniotic fluid in normal ranges, Placenta fundal location. Statistical possibility for Trisomy 21: 1 to 116, Trisomy 18: 1 to 171 and Trisomy 13: 1to 2212.

In our case therapeutic mapping consisted a controversial dilemma, in order to achieve ultimate perinatal outcome especially for the normal fetus.

After assiduous counselling and invasive patient's consent, performed selective feticide injection of potassium chloride (KCL) into the pathologic twin, in order to provoke endometrial death. After endometrial death of the pathologic fetus, ultrasound scanning of the normal fetus was mandatory in order to preserve the singleton pregnancy. Cervical length measuring 38mm. In 19th week of gestation an amniocentesis was performed in order to exclude potential chromosomal abnormalities. Karyotypic analysis revealed male sex determination without arithmetic or structural chromosomal abnormality. B level and Doppler scanning performed in normal ranges depicting signs of uneventful pregnancy. Due to pathologic ranges of glycoze levels after 25th week of pregnancy, insulin injections were mandatory. In 39th week of gestation, patient underwent normal delivery, due to myometrial contractions and cervical dilatation, a male fetus 2900g with Apgar Score 9 in first minute and 10 in fifth minute respectively. After one hour in delivery room, patient pointes signs of uterine atony, fulfilled with episodes of vaginal bleeding.

Patient transfused with two units of blood cells, covered with uterine contractile agents. Finally, patient underwent diagnostic curettage in order to evacuate the endometrial cavity of all potential inflammatory elements. She discharged from hospital the 4th pod in good clinical condition.

Discussion

Decoding current bibliography, incidence of twin fetal pregnancy discordant for anencephaly estimated to 1 to 40,000 gestations [6]. Measuring during first trimester of pregnancy NT (Nuchal Translucency), many congenital anomalies can be easily depicted such as anencephaly. Proper diagnosis and assiduous therapeutic mapping can lead in many cases into dilemma. Multidisciplinary approach is mandatory in order to establish ultimate treatment for the normal twin concerning the increased risk of potential endometrial fetal demise or premature delivery.

In cases of monochorionic twins, due to vessel anastomoses, establishment of optimal therapeutic strategy is very difficult concerning luck of clinical options. Alternative option consists selective feticide by cord occlusion [7]. In cases of dichorionic twins, potential clinical option can be selective feticide injection of potassium chloride (KCL) into the pathologic twin, in order to

provoke endometrial death [8]. Assiduous monitoring surveillance of the normal twin is mandatory in order to preserve an uneventful gestation by decreasing the incidence rate of premature delivery.

Many conducted studies suggested, increased rate of anencephaly twins are being depicted through assisted reproductive methods such as IVF-ICSI than spontaneous pregnancies [9]. In general, twin pregnancies reflect increased rate of anencephaly formation than in singletons.

In our study, we took into consideration, atomic history, laboratory and imaging findings and decided to respond with ultimate scope uneventful gestation preservation of the normal twin.

Conclusion

Twin fetal gestation discordant for anencephaly consists a severe and mostly lethal congenital anomaly.

Ultrasound scanning during pregnancy represents cornerstone in order to establish proper diagnosis and assiduous therapeutic mapping of the normal fetus. Fetal pregnancy experience is strongly accompanied with ultimate scope achievement.

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