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DOI:

CASE SERIES OF AMNIOTIC BAND SYNDROME

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ABSTRACT

Amniotic band syndrome (ABS) is a rare disorder, which consists of a combination of malformation in which main feature is the existence of an amniotic band that can develop the limbs, the body wall and/or the viscera. We reported two cases of antenatal diagnosis of amniotic band syndrome

1. A 30 year old female patient at 13 week 6 days, who had undergone medical termination
2. A 28 year old female patient at 15 weeks, who had undergone medical termination

INTRODUCTION:

The amniotic band syndrome is a group of disorders involving the limbs, craniofacial region and thoraco-abdominal area with constricting skin band formed by fibrous tissue of chorioamniotic origin, enveloping the limbs, the body wall and the viscera, as the main feature. The origin of this malformation is multifunctional. Early and accurate pre-natal diagnosis is the key element of management. The prognosis depend on the severity and location of the malformation. Medical abortion may be proposed in case of severe malformation.

CASE REPORTS

CASE REPORT - 1

A 30 year old female Gravida 3, para 1 had one live child by full term cesarian section and one abortion at 8 weeks of gestation and no family history of ABS. Ultrasound examination at 13 weeks 6 days showed 20x15mm avascular cystic lesion at lumbar region, suggestive of sacro-coccygeal teratoma, large anterior abdominal wall deformity, both lower limb deformity, thin avascular linear wavy band involving foetal parts restricting foetal movement suggestive of amniotic band. Medical termination of pregnancy was indicated because of poor prognosis in multiple anomalies. After agreement of couple medical termination of pregnancy done. Dead foetus having large irregular abdominal wall defects with viscera outside and small cystic mass at lumbo-sacral region with deformed and deviated lower limbs.



Figure 1 USG suggestive of amniotic band



Figure 2 USG suggestive of cystic mass with limb deformity



Figure 3 Specimen of abortus with anterior abdominal wall defect with deformed and deviated lower limbs

CASE REPORT – 2

A 28year old women gravida 3, para 1 had 3 year old male child with full term delivery and one spontaneous abortion at 7weeks of gestational age and no family history of ABS. At 11weeks of pregnancy, ultrasound examination showed that left uper limb of fetus was over flexed and left hand was adhere to umbilical cord with limited movement. At 15weeks of pregnancy, adhesion detected between foetal hands and umbilical cord, multiple band like echoes in amniotic cavity. Dead fetus was aborted by medical termination of pregnancy.

Adhesion between upper limb and umbilical cord surface by amniotic bands were found.

DISCUSSION:

The aetiology and pathogenesis of ABS is unknown. It is a sporadic disorder which is characterized by constricting rings, acrosyndactyly and often amputation of extremities of foetus.(1) The prevalence of ABS vary from 1 in 1200 to 15000 live births.(2) Hippocrates recognise this condition as early as 300 BC. He suggested that extrinsic pressure from a ruptured amniotic membrane resulting in band formation or digital amputation. Rechar torpin reintroduce the extrinsic theory (Hippocrates theory). He noticed lack of complete amniotic lining in the placenta of foetus bone with ABS. He also observed strains of amnion around constricting rings of digits and binding strand at the tip of limbs with acrosynductyly (3).

Intrinsic model was proposed by streeterin in 1930 and suggest that anomalies and fibrous band have common origin caused by perturbation of developing germinal disc of early embryo.(4)

Lockwood reported that ABS may not be consequence of amniotic band formation but rather the result of multifactorial process responsible for developmental malformation in fetal ectodermal and mesenchymal disruption. Vascular compromise mainly haemorrhage may be the central pathogenic features.(5)

Higgin bottom reported that deformation, malformation, disruption results depending on the time in gestation of the amniotic rupture.(6)

The risk factors for ABS are:

- 1) Primipara under the age of 25(7)
- 2) Abdominal trauma(8)
- 3) Unsuccessful abortion
- 4) Intrauterine contraception
- 5) Cercalage
- 6) Amniocentesis
- 7) Chorionic vilus sampling
- 8) Drugs such as ergotamine, acetaminophen, misoprostol (9)

Matic and komazec stated that most cases of ABS are not of genetic origin with no recurrence in siblings or children of affected adults. The patient has a previous child without ABS.(10)

Construction band across the head and face may lead to facial cleft, if the cleft extend in to the cranium encephalocele may result. Band that cross the body may compromise the chest (thoracoschisis or etrathoracic heart) or abdomen (gastroschisis) (11)

Fetal USG can detect amniotic band, constriction ring and amputation as early as 12weeks of gestational age. The importance of prenatal diagnosis of ABS is that development of fetoscopic techniques in laser cutting of amniotic band helps in preventing further anomalies. (12)

CONCLUSION:

Amniotic band syndrome is a rare embryo fetopathy. Antenatal diagnosis is possible with pregnancy monitoring and early first trimester ultra sound. The obstetrical attitude should be individually adapted. Medical abortion may be justified in case of seriousness and lethality of malformations with couple's consent, considering the socio-cultural and religious context.

ACKNOWLEDGEMENT: NIL

FUNDING: - NIL

CONFLICT OF INTEREST: NIL

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