Antenatal diagnosis of esophageal atresia with the upper neck pouch sign: A Case Report

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Introduction

Esophageal atresia is a congenital condition in which the proximal and distal portions of the esophagus do not communicate.

The reported incidence is 1 in 5000 pregnancies. and 90% of the fetuses with esophageal atresia have a tracheoesophageal fistula.
Introduction

Diagnosis is usually suspected when finding a small or absent fetal stomach bubble associated with maternal polyhydramnios, however, is not definitive, +ve predictive value of these findings is only 56%.

These findings may also be associated with other anomalies.
Introduction

A moderately distended stomach may be seen in a case of esophageal atresia with or without tracheoesophageal fistula as a result of retained or increased gastric secretions. Polyhydramnios and an absent or small stomach may be associated with other anomalies such as, diaphragmatic hernia, deficient fetal swallowing due to mechanical obstruction, facial clefts or a neuromuscular disease.
Introduction

Recently Prenatal diagnosis of EA has been greatly help by the Visualization of a fluid-filled pouch during fetal swallowing in the upper neck. *The upper neck pouch sign* is the most reliable sign of esophageal atresia.

The use of the pouch sign can increase the positive predictive value.
We report a case of esophageal atresia that is diagnosed antenatally at 33 weeks by demonstration of the upper neck pouch sign, the diagnosis was confirmed postnatally.
Case Report

MS M,R.25 years old
PG.
Referred to our feto maternal unit at KHMC from private clinic at 33 weeks gestation for further evaluation for polyhydramnious
On examination by ultrasound
in the region of the esophagus fluid filled blind ending esophageal pouch with fetal swallowing.
similar section after a while
shows emptying of the pouch
Based upon this finding, a diagnosis of esophageal atresia was made.

In view of the very small stomach, the presence of a distal tracheoesophageal fistula was suspected.
No other fetal anomalies were detected and fetal biometric measurements were within normal limits.
The diagnostic, prognostic and therapeutic problems were discussed with the parents by a team of obstetricians, neonatal and pediatric surgeon.
Amnioreduction was performed three times, at gestational weeks 33 (3.2 L aspirated), 34 (2.5 L) and 37 (2.4L), to relieve the abdominal distention, and the karyotype was normal.
The patient delivered a 3.2 kg male vaginally at 38 gestational weeks with...
A feeding tube passed returned confirming esophageal atresia.
The X-ray showed air in the stomach confirming TEF.
The baby was taken to surgery without delay and the diagnosis of esophageal atresia with distal tracheoesophageal fistula.

[Image of a baby in a hospital setting with medical equipment]
the infant was discharged on the 13th postoperative day.
The child’s clinical condition remained good, and his development was normal, he is now 4 month old and is in excellent health condition.
Discussion

The upper neck pouch sign was first described by Eyheremendy and Pfister in 1983 in two affected foetuses.
Satoh S, et al. in 1995 They observed that earliest onset of transient 'upper neck pouch was in the 27th week because in the first and early mid-trimesters, the fetus is unable to develop sufficient pressure on swallowing to permit dilatation of the blind-ending esophagus.
Discussion

the incidence of the pouch sign in the diagnosis of congenital esophageal atresia is underreported, This may be due to the technical difficulties in visualization, or to examination prior to the 27th week of gestation.

- Also, the fetus may not swallow during the examination.
- Failure to identify a pouch in the fetal neck does not exclude esophageal atresia.
Discussion

In our case, in addition to the presence of polyhydramnios and a very small stomach, an anechoic esophageal pouch was seen in the neck showing alternate filling and emptying on real-time examination.
The presence of the upper neck pouch sign on USG is an additional sign that helps in the diagnosis of esophageal atresia, this sign is seen regardless of the presence or absence of a tracheoesophageal fistula.
Therefore, in the presence of polyhydramnios, we should look for the pouch sign in the neck, irrespective of whether the stomach is present or absent.

The presence of a neck pouch not only provides a more reliable diagnosis of esophageal atresia, it also assists as in predicting the prognosis, and in counseling the parents.
CONCLUSION

Fetuses diagnosed as having this condition should be delivered in tertiary care centers to accelerate initiation of care and prevent aspiration resulting from inappropriate feeding.
Prenatal diagnoses enables parents to be prepared for the birth and treatment of their affected child, it also permits prompt neonatal management, thereby avoiding potentially hazardous delays in diagnosis, and leads to earlier identification of associated anomalies.

Early diagnosis is also important to avoid complications of aspiration and chemical pneumonia.

Prenatal diagnosis of esophageal atresia allows early prenatal care and then a better outcome.
THANK YOU