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CASE REPORT

CONGENITAL ESOPHAGEAL ATRESIA WITH TRACHEOESOPHAGEAL FISTULA IN A DAY OLD NEONATE: A CASE REPORT

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ABSTRACT

Congenital esophageal atresia and tracheoesophageal fistula is a rare congenital anomaly that occurs in one per 3000 live births and consist of esophageal discontinuity with or without connection to the trachea.

Approximately 92% of patients with esophageal atresia have a tracheoesophageal fistula, which is a congenital fistulous connection between the esophagus and the trachea or a main bronchus. This patient presented with episodes of choking and cyanosis after every feed, respiratory difficulty and a distended abdomen.

The plain radiograph of the chest including the abdomen was done where the stomach appeared to be markedly distended with air.

The contrast meal performed showed a blind ended esophagus with a coiled feeding tube and pool of contrast in the blind ended esophagus.

We present the radiologic findings of this case due to its rare nature and peculiar features.

Keywords: Esophageal atresia, Fistula, Neonate, Tracheoesophageal

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Introduction

Congenital esophageal atresia and tracheoesophageal fistula is a rare congenital anomaly that consist of esophageal discontinuity with or without connection to the trachea.^{1,2}

This is a rare condition that occurs in 1 per 3000 live births, patients with congenital esophageal atresia and tracheoesophageal fistula have chronic respiratory and digestive symptoms due to abnormal development of trachea and esophagus during intrauterine life.^{3,4,5}

Approximately 92% of patients with esophageal atresia (EA) have a tracheoesophageal fistula (TOF), which is a congenital fistulous connection between the esophagus and the trachea or a main bronchus and 4% of patients with TOF do not have OA.⁶ The etiology of EA with or without TOF is unclear, although 10% of patients have a chromosomal abnormality.^{6,7}

Esophageal atresia is characterized by incomplete formation of the esophagus. Many variations of esophageal atresia with or without tracheoesophageal fistula have been described.^{8,9,10} The C type is the commonest variant of this anomaly and consists of a blind esophageal pouch with a fistula between the trachea and the distal esophagus which has an estimated occurrence of about 84%.⁶⁻¹⁰ The fistula however often enters the trachea close to the carina.

Most patients with congenital TOF are diagnosed immediately following birth or during infancy with more than 98% of patients having associated esophageal atresia that results in life threatening complications.¹¹ Esophageal atresia is reported to be more common in the male gender than the female counterpart, this however does not affect the care or outcome of the condition.^{12,13}

Case Report

This is a day old term baby weighing about 2.7kg given birth through a normal vaginal delivery with a good APGAR score. The patient was referred from a neighbouring hospital for plain abdominal radiograph and a contrast meal on account of choking with feeds; breast milk and water.

The prenatal period was uneventful, the mother denied history of febrile illnesses and consumption of hard drugs, herbal

concoction and food supplements. She also admitted to intake of folates and required and prescribed antenatal drugs. He had episodes of choking and cyanosis after every feed. Appeared to have respiratory difficulty with a distended abdomen on physical examination. Attempts at passing a feeding tube (NG) failed on different occasions. A plain radiograph of the chest including the abdomen was done where the stomach appeared to be markedly distended with air most likely from a fistulous connection between the trachea and distal esophagus. The lung fields were clear and the heart was normally sited with an apex on the left.

A contrast meal (low osmolar contrast medium: scanlux) was performed. This showed a blind ended esophagus with a pool of contrast medium and coiled feeding tube. The contrast was not demonstrated in the lung field. The distal esophagus and the stomach were also not contrast opacified. The vertebral spine showed normal appearances. Abdominopelvic ultrasound showed normal hepatic and splenic situs with other abdominal organs showing normal appearances.

Figure 1: Lateral view of a plain chest and abdominal radiograph showing a markedly air distended stomach with normal vertebral spine.

Figure 2: Images from the contrast meal showing coiled tube and pool of contrast medium in the blind ended esophageal pouch. No contrast medium was demonstrated in the stomach or lungs rather the stomach is distended with air. This confirms a blind ended esophageal pouch superiorly with a distal tracheoesophageal fistula; Type-C; esophageal atresia with tracheoesophageal fistula.

Discussion

The presence of a blind ending esophagus with a fistulous connection between the trachea and esophagus is a rare entity; the index case had a proximal blind ending esophagus with a fistulous connection between the distal esophageal segment and the trachea classified as type-C. Patients with EA-TOF present with choking after feeds immediately after birth with varying degree of respiratory distress; these findings are those documented in the literature, this patient had similar findings with associated air distended abdomen.

The etiology of EA-TOF is unknown,^{6,7} similar finding was documented in this patient, we had no known cause of the condition. The prenatal period was uneventful and he was delivered following a spontaneous vaginal delivery. Esophageal atresia is more common in males than females as documented in most literature,^{12,13} our patient happens to be a male conforming to that reported in the literature.

Esophageal atresia with TOF may be associated with other congenital anomalies like vertebral and genitourinary anomalies to mention a few,¹⁻¹³ no obvious associated anomaly or features to suggest any anomaly was demonstrated in this case.

Conclusion

Neonates presenting with episodes of choking immediately after feeding should have basic radiographic contrast meal to rule out esophageal atresia with tracheoesophageal fistula as this may be life threatening.

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