

Case Report

A case of accidental transtracheal gastric passage of feeding tube in esophageal atresia with distal tracheo esophageal fistula: a rare occurrence

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ABSTRACT

Esophageal atresia is a congenital anomaly which is usually diagnosed by the inability to pass a feeding tube into the stomach, associated with respiratory distress and excessive frothing from the mouth. Here we report a case of a 1 day old 2.5 kg female child who presented with respiratory distress and excessive salivation, with passage of infant feeding tube into the stomach initially, and not subsequently, in a case of esophageal atresia with tracheoesophageal fistula. EA can almost be ruled out if the feeding tube can be passed into the stomach. In EA with distal tracheo-esophageal fistula there can be a rare possibility of feeding tube entering the stomach, which is only possible through the trachea and the distal fistula. Here we report this rare occurrence, which led to a delay in diagnosis. Similar clinical situations can be avoided by routinely using a stiff rubber catheter instead of a soft feeding tube for the diagnosis of EA and TEF.

Keywords: Esophageal atresia, Congenital, Tracheo-esophageal fistula

INTRODUCTION

Esophageal atresia with tracheoesophageal fistula (TEF) is a congenital anomaly that is usually diagnosed soon after birth, usually by neonatologists, by the inability to pass feeding tube into the stomach.¹ Proximal esophageal atresia with distal TEF (Type C or 3b) is the most common type.^{2,3} Esophageal atresia can be ruled out if feeding tube can be passed into the stomach. However there have been few rare case reports of successful passage of feeding tube into the stomach, causing delay in diagnosis.⁴⁻⁹ Here we report this rare occurrence.

CASE REPORT

A 1-day old female child (birth weight 2500g), 5th born to parents with non-consanguineous marriage, born at home, was referred to our hospital with respiratory distress and

frothing at mouth. Single antenatal scan done at 30 weeks did not suggest any anomaly. On admission, the baby had significant respiratory distress with bilateral subcostal and intercostal retraction with bilateral crepitation. Abdominal distension and excessive salivation were present. Baby was intubated and ventilated as the baby was not maintaining saturation on CPAP with poor peripheral perfusion. However, the baby improved and was extubated in a few hours. However, on trying to pass a 5 Fr Feeding tube, it could not be passed beyond 10cm at first attempt but consequently feeding tube was passed into the stomach, and transtracheal passage of infant feeding tube was confirmed with an X-ray. After a few hours, since frothing at mouth was continuous and abdomen distension persisted, the possibility of trans tracheal passage of feeding tube was considered and the feeding tube was removed and an attempt was made to reinsert it. This time, feeding tube could not be passed

beyond 10 cm arising a suspicion of oesophageal atresia with tracheoesophageal fistula.



Figure 1: X-ray showing feeding tube in stomach.

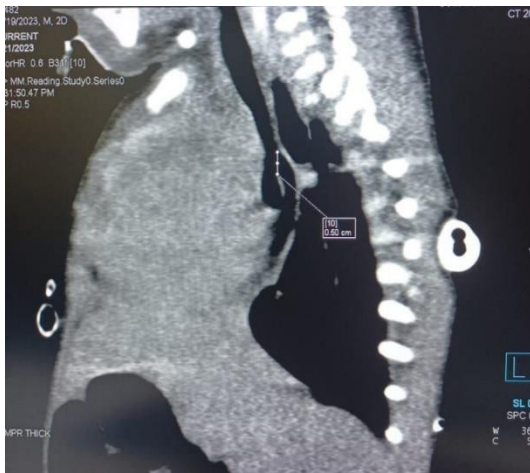


Figure 2: CT chest showing a wide distal tracheo-oesophageal fistula.

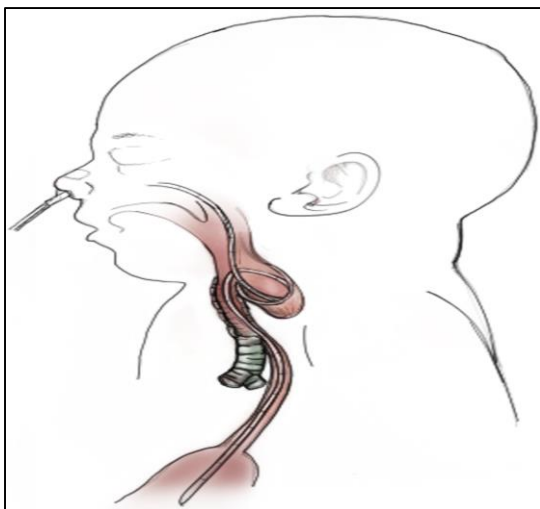


Figure 3: Course of flexible feeding tube.

CT chest done showed feeding tube arrested in the blind short upper oesophageal pouch with a large trachea-oesophageal fistula.

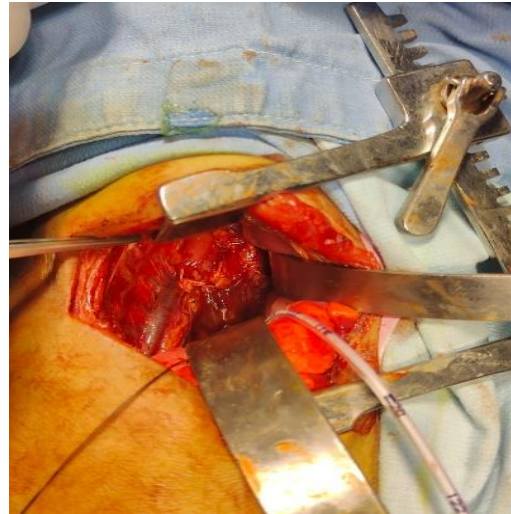


Figure 4: Intraoperative finding.

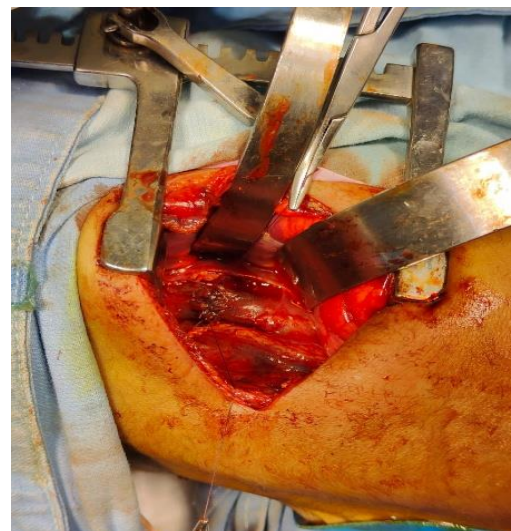


Figure 5: Post anastomosis.

The patient was transferred to paediatric surgical department and all prior radiographic images were cross examined and the diagnosis of type 3 tracheoesophageal fistula was considered and the baby was posted for surgical repair. A right thoracotomy revealed an EA of type IIIb with a wide TEF.² A primary anastomosis was done after fistula ligation. The baby tolerated the procedure well but succumbed on post operative day 3.

DISCUSSION

Oesophageal atresia with tracheoesophageal fistula occurs in is usually suspected and diagnosed by neonatologist by the inability to pass feeding tube (usually 5Fr or 6Fr) following which a chest radiograph confirms the coiling of tube. In this case, there was an

inability to pass feeding tube at the first attempt, however the feeding tube passed through to the stomach at the second attempt by the paediatricians. Chest radiograph taken later confirmed the same. However, due to persistent frothing of mouth and knowing the possibility of transtracheal passage of feeding tube to the stomach, the feeding tube was removed and another attempt at reinserting it was done. This however was unsuccessful. CT chest was done. It showed a wide distal tracheoesophageal fistula and a blind upper pouch. There was a similar case reported by the same authors a few years ago, where there was an accidental gastric passage of feeding tube into the stomach in a case of oesophageal atresia with distal tracheoesophageal fistula. They attributed this occurrence due a peculiar pathological anatomy of unduly short upper blind pouch with a wide TEF. This finding was similar in our patient, as confirmed by the CT scan.⁵

Patel et al reported similar occurrence and concluded that the passage of feeding tube into the stomach cannot completely exclude oesophageal atresia.^{6,7} In this report, they could not reinsert feeding tube into stomach at the next attempt, similar to our case and hence suspected oesophageal atresia which was later confirmed using bronchoscopy and esophagoscopy. In a similar case report from Africa, on passage of feeding tube into the stomach, they confirmed the TEF using contrast swallow study that showed spilling of contrast into the bronchial tree.⁸ However in our patient, CT scan revealed the diagnosis. In our patient, the feeding tube, being of 5 Fr and flexible, coursed through the upper pouch into the trachea and through the fistula into the stomach (Figure 3). With a wide TEF, the feeding tube that entered the trachea easily passed through the TEF. This was the course of feeding tube in all similar case reports published so far.^{5,6} Many cases from across the world have reported the same recently and the key feature to suspecting TEF being persistent secretions associated with respiratory distress, despite passage of feeding tube into the stomach.⁸⁻¹⁰ As a precautionary measure, two authors suggested routinely using 10F red rubber tube instead of the flexible 5F feeding tube, to diagnose TEF, which will help save time in diagnosis and expedite further management.^{5,6}

CONCLUSION

As conclusion in a case of oesophageal atresia with distal tracheoesophageal fistula, although diagnosed by the inability to pass feeding tube into the stomach, there is a rare possibility of gastric passage of feeding tube. This is usually when there is a short upper oesophageal pouch

and a wide distal fistula. This clinical situation can be avoided by routinely using a 10F stiff rubber catheter instead of a soft feeding tube for the diagnosis of EA and TEF, thus saving time in diagnosis and management.

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