Tracheo-esophageal Fistula with Distal Esophageal Web - A Case Report

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Case Report

Abstract: Incidence of tracheo-esophageal Fistula is 1 in every 4,000 child birth. Because of its rarity we report a case of tracheo-esophageal fistula with esophageal web in distal segment which was operated and baby was discharged in good condition.

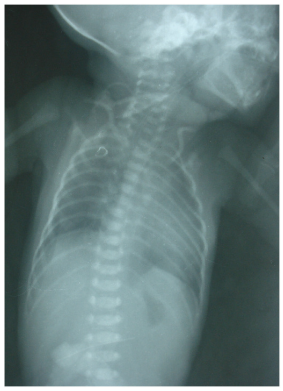
Key Words: Tracheo-esophageal (TEF) fistula with distal esophageal web, surgery.

Introduction

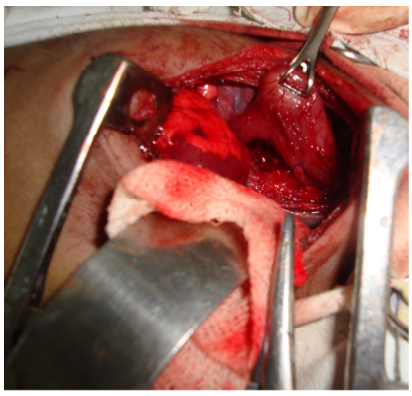
Tracheo-esophageal Fistula is a congenital (developmental) anomaly in which there is abnormal communication between trachea and esophagus. Babies with trachea-esophageal fistula are unable to feed properly. Once diagnosed prompt surgery is required to allow the baby to take in food. Congenital anomalies of heart, kidney and limb are associated with trachea-esophageal Fistula.

Case summary: - A 2 day old baby was brought by parents with chief complaints of cough & regurgitation at attempt of feeding. On examination baby was conscious with good cry and weight of 2 kg X-ray Chest showed coiling of ryles tube in upper part of esophagus and no gas in stomach and small bowel. There were no signs of pneumonitis. USG of abdomen was normal. There was no cardiac anomaly.

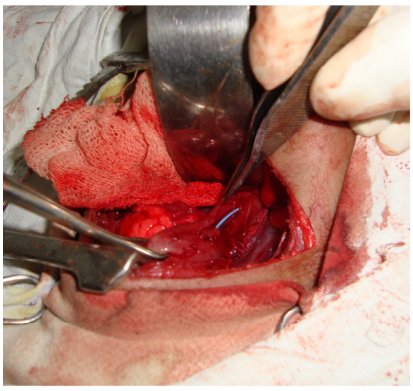
Baby was posted for emergency surgery with adequate blood arrangement. Right posterolateral thoracotomy was done through 4th intercostal space and pleura was opened. Operative findings were– upper two blind ends of esophagus and fistula between upper end of esophagus and trachea. The fistula was divided and ligated with prolene No. 2-0. Anastomosis of upper and lower segment of esophagus was performed with prolene 3-0 in interrupted fashion. When an infant feeding tube was tried to push into the stomach, it got obstructed about 3 cm above hiatus. We could not negotiate after several attempts. We did a small vertical esophagotomy of 2 cm above the obstruction and to our surprise there was a esophageal web of full circumference causing obstruction to passage of feeding tube. Web was excised & was sent for histopathological examination. Feeding tube was passed in to stomach and esophagotomy suture approximated with prolene 4-0. Intercostal tube was kept and closure of thoracotomy was done. Baby tolerated the procedure and was extubated on 2nd day. Ryles tube feeding was started on 4th day. Contrast study was done on 10th day showing patency of esophagus. Baby was discharged on 12thpostoperativeday. Esophageal web was reported as squamous cell epithelium with loose connective areolar tissue.



Photograph 1: Chest X ray showing coiling of feeding tube in mediastinum



Photograph 2: fistula of upper segment



Photograph 3: Esophageal web excision done, feeding tube passed in distal segment

Discussion

Tracheo-esophageal fistula is a congenital condition which arises due to failed fusion of the trachea-esophageal ridges during the 3rd week of embryonal development. The incidence of Tracheo-esophageal fistula is 1 in every 4,000 child birth. There are different types of Tracheo-esophageal fistula depending upon the segment of esophagus and fistula with trachea. The table below describes the 5 major categories of congenital TEFs.

Anatomic Characteristics	Percent of Cases
Esophageal atresia with distal TEF	87 %
Isolated esophageal atresia without TEF	8 %
Isolated TEF	4 %
Esophageal atresia with proximal TEF	1 %
Esophageal atresia with proximal and distal TEF	1 %

In present case, the finding of presence of distal esophageal web with proximal trachea-esophageal fistula is very very rare. Only 6 cases have been documented in world literature till date. We must check the distal patency of esophagus after blind ends anastomosis. Sometimes rarely we can find distal esophageal obstruction in the form of partial or complete esophageal web. If we miss the distal obstruction, the whole purpose of surgery will be lost & we will lose the baby.

References

1. Holder TM, Ashcraft KW, Sharp RJ, Amoury RA. Care of infants with esophageal atresia, tracheoesophageal fistula and associated anomalies. J Thorac Cardiovasc Surg. Dec 1987; 94 (6) : 828-35.
2. Ashcraft KW, Holder TM, Esophageal atresia and tracheoesophageal fistula malformation. Surg Clin North Am. Apr 1976;56 (2) : 299-315.
3. Bell MJ. Repair of esophageal atresia and tracheoesophageal fistula. Mo Med. Mar 1976; 73 (3): 136-7, 142.
4. Engum SA, Grosfeld JL, West KW, Analysis of morbidity and mortality in 227 cases of esophageal atresia and/or tracheoesophagal fistula over two decades. Arch Surg May 1995; 130 (5) : 502-8.
5. Martin LW, Alexander F. Esophgeal atresia Surg Clin North Am. Oct 1985;65(5).
6. Vijayaraghavan SB, Antenatal diagnosis of esophageal atresia with tracheosophgeal fistula. J Ultrasound Med. May 1996; 15 (5).
7. Williams J. Diagnosing tracheoesophageal fistula without esophageal atresia. Clin Pediatr (Phila) Feb 1996; 35 (2)
8. Woolley MM. Esophageal atresia and tracheoesophageal fistula: 1939 to 1979. Am J Surg. Jun 1980; 139 (6): 771-4.