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Congenital 'H' type Tracheo-Esophageal Fistula- A case report

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ABSTRACT

Tracheo-Esophageal Fistula (TEF) without associated esophageal atresia is a rare congenital anomaly Here we are reporting a case of an 8month old female infant with H type trachea-esophageal fistula. The infant presented with complaints of cough and vomiting after every feeds. She had been experiencing these symptoms since early neonatal period and had been admitted several times with diagnosis of pneumonia, but a definitive diagnosis was never made. Contrast esophagogram and contrast CT scan revealed a communication between esophagus and trachea. The surgery was performed through a right thoracotomy approach, division and suture of the fistula was done

Introduction;

H-type TEF accounts for 4-5% of congenital trachea-esophageal malformations 1, 2. The clinical features are variable, common being the recurrent respiratory symptoms, post feeding aspiration with cyanosis and abdominal distention. The early diagnosis of this disorder is difficult and most of the patients are treated as cases of pneumonia till a definitive diagnosis can be reached. The first surgical repair of such a defect was reported by Imperatori in 1939. Here we are reporting a case of H-type TEF admitted in our hospital 1, 2.

Case report:

An 8month old female infant weighing 3.9kgs was admitted in the hospital with complaints of cough and vomiting after every feed. She also had occasional fever, and frequent episodes of abdominal distention. The systemic examination was unremarkable with a normal Chest X-ray. Contrast esophagogram performed revealed contrast leaking in to tracheobronchial tree from the esophagus through a small fistulous track. Contrast CT scan done further confirmed the diagnosis of TEF at the level of T2 vertebra.

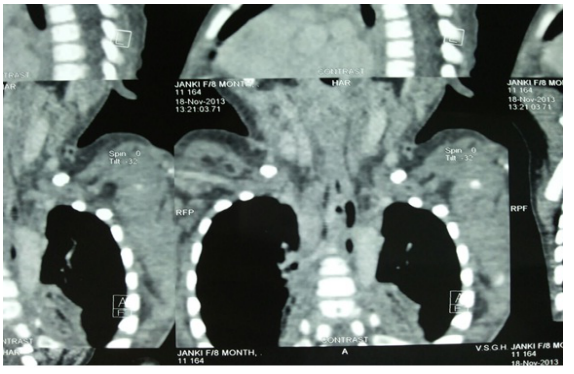

Figure 1: Contrast CT Showing H type TEF

Once the diagnosis was confirmed the child was placed in semi upright position and oral feed was withheld. Intravenous fluids and IV antibiotics was started Complete blood count, coagulation profile and blood chemistry were in normal range. Ultra sound abdomen was unremarkable. Right sided thoracotomy was done through the 5th intercostal space and the fistula was divided and repaired.

After surgery nasogastric feed was started on the 2nd post-operative day and oral feed started on 8th post-operative day. Patient was discharged 10days post-surgery after establishing proper oral feeding.

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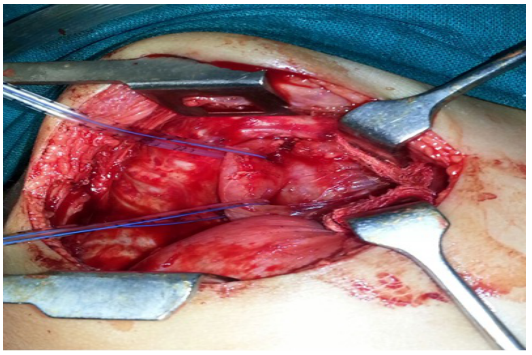

Figure 2: H type fistula Intra OP

Discussion

In 1873 H type isolated TEF was described by Lamp. Despite the elapse of a century since the original description, this condition often goes unrecognized. TEF without and esophageal atresia as always been assumed as a rare condition. 70% of H type TEF is at or above the level of 2nd thoracic vertebrae and they can be as high as C7 and as low as T42, 3. They are diagnosed clinically by the triad of coughing and chocking precipitated by feed (with or without cyanosis), gaseous abdominal distention and recurrent LRTI. The 'H' type fistula is associated with excessive tracheal secretion with bubbly respiration and improvement of symptoms on starting nasogastric feed.

In a large survey of reported cases by Killen & Green Lee in 1965, it's noted that the diagnosis of this condition was made with in the first month of life in 43% and within the first year in 83% of the patients 2. In our patient, diagnosis was made at 8month of age, and the fistula was intra-thoracic, a very rare presentation. The diagnosis can be made by prone esophagogram which is reliable. Endoscopic techniques like bronchoscopy and esophagoscopy have the advantage of being diagnostic allowing a placement of a catheter across the fistula to allow in its localization during surgery. H-type TEF is associated with other malformations in about 30% of cases, including VACTERL/VATER, CHARGE syndrome, Goldenhar's syndrome, esophageal stenosis, and syndactyly 2. The index case has none of these associations.

Different surgical approaches has been described for this anomaly for proximally located fistula the approach of choice is cervicotomy and in cases of distal fistula thoracotomy is usually preferred 3,4,5. In present case since the location of the fistula was at the level of T2 vertebra, a right thoracotomy approach was chosen.

Conclusion:

A high index of suspicion in cases of cough, cyanosis and choking on first feed and recurrent respiratory symptoms even when esophagus is patent, indicate H-type TEF until proved otherwise. Such patients must be thoroughly investigated to demonstrate the anomaly.

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