Medical Quiz Answers

A1. Esophagogram revealing a thoracic tracheoesophageal fistula.

A2. Bronchoscopy.

A3. H-Type tracheoesophageal fistula.

DISCUSSION

Esophageal atresia with associated tracheoesophageal fistula is a rare congenital anomaly. The incidence varies from 1:2500-3000 of live births. Tracheoesophageal fistula and esophageal atresia are classified into five types. The most common type is esophageal atresia with distal tracheoesophageal fistula; it is 85% of esophageal atresia. Pure esophageal atresia without tracheoesophageal fistula is approximately 7% of esophageal atresia. Isolated tracheoesophageal fistula with the absence of esophageal atresia is called H-type tracheoesophageal fistula, it is approximately 4%. H-type tracheoesophageal fistula is located in the cervical area in 90% of cases and in the thoracic area in 10% of cases. Proximal fistula with associated tracheoesophageal fistula is present in less than 2% of patients, where the presence of double fistula in proximal and distal esophageal pouches with esophageal atresia, is the least common type[1].

Patients with H-type tracheoesophageal fistula can present early with choking and cyanosis during feeding, recurrent chest infection, or rare abdominal distention in cases of large H-type fistulas[2].

High clinical suspicion is needed to achieve the diagnosis of H-type tracheoesophageal fistula because the presentation is not specific and variable. In a study by Alsalem et al, 60% of cases were diagnosed in the first 6 months of life, and 90% were diagnosed in the first year[1-3].

There are several methods to diagnose H-type tracheoesophageal fistula including esophagogram, bronchoscopy and esophagoscopy. CT scan and MRI can be used to achieve a diagnosis of H-type tracheoesophageal fistula safely in neonates[3].

Surgical repair can be achieved by open surgical or thoracoscopic approach. Reports of endoscopic treatment of H-type tracheoesophageal fistula or for recurrent cases, using Histoacryl glue with electrocautery proved to be a successful approach[4-6].

Right-sided transcervical repair remains the choice of approach to treat cervical H-type tracheoesophageal fistula. This approach avoids injuring the right recurrent laryngeal nerve. Parolini et al reported that 77% of cases were repaired via right side cervical approach, 13% via left cervicotomy, thoracotomies in 10%, and the remaining were repaired by throracoscopy[5-7].

CONCLUSION

H-type tracheoesophageal fistula is a rare congenital anomaly that remains a diagnostic and management challenge for physicians. The most common location of H-type tracheoesophageal fistula is cervical. Thoracic H-type tracheoesophageal fistula is extremely rare.

Different modalities were advocated in the management of recurrent thoracic H-type tracheoesophageal fistula cases. A multidisciplinary team is advocated for a better outcome and improved quality of life for patients.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

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Ethical Approval: Approved by the Department of Pediatrics, Salmaniya Medical Complex, Bahrain.

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