Chronic Dysphagia Secondary To Tracheoesophageal Fistula

S Basavaraj, S Duvvi, S Hampal, G Boggaram, R Ravi

Citation

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Abstract

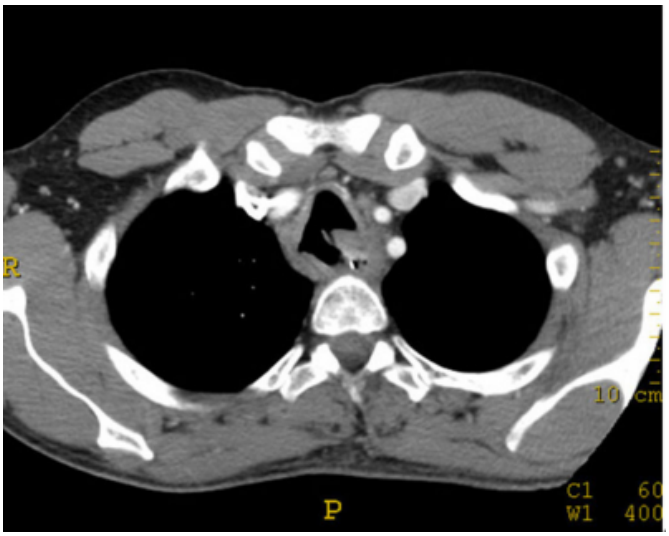
Traumatic tracheo-oesophageal fistulas occur secondary to either blunt trauma or open avulsion injury to the neck and thorax. It can occur following prolonged endotracheal tube intubation, as a complication of tracheostomy and improper positioning of tracheostomy tube. Tracheo-oesophageal fistulas following ingested or inhaled foreign bodies are very rare and in majority of these cases they present as an acute condition either with history of recurrent chest infection or aspiration. We present a case where patient present with weight loss and chronic dysphagia few months following ingestion of small denture.

CASE REPORT

A 40 year old gentleman attended our department with history of progressive dysphagia for 9 months. As he was partly regurgitating and vomiting whenever he tried to eat and drink, he had lost significant weight. Apart from heavy smoking and alcohol intake he was medical fit. He was seen by Gastroentrologist initially who performed upper oral gastroduodenoscopy (OGD) 5 months ago, which was normal. As he was alcoholic, his dysphagia, vomiting and weight loss symptoms were presumed related to alcoholism and acid peptic disease by the gastroenterologists and his GP. His symptoms got worse over the time, he was then referred to ENT clinic. His ENT examination including flexible laryngoscopy was normal. As his recent OGD was normal and there was no other significant medical problem, we requested Videofluroscopy and barium swallow to assess the motility of the oesophagus. During initial part of Videofluroscopic examination there were signs of aspiration. The procedure was abandoned and CT scan of neck and chest was requested. The CT scan showed a tracheo-oesophageal fistula in the upper part of the oesophagus (fig. 1)

Figure 1

Figure 1: CT scan of upper thorax showing Tracheoesophageal fistula.



He then underwent OGD and bronchoscopy, the fistula with part of denture was visible in the trachea (fig. 2) but not in the oesophagus.

Figure 2

Figure 2: Denture protruding into the trachea – tracheal image.

Patient when asked about the denture, he recalled that his denture was missing some year ago which he has completely forgotten to mention to everyone.

Biopsy was taken from fistula wall which showed chronic inflammatory features. The fistula segment of trachea was resected after mobilising trachea and oesophagus. The trachea was closed with end-to-end anastomosis and oesophagus was repaired with left sternohyoid muscle tranpositioning. Post-operative recovery was uneventful.

DISCUSSION

Tracheo-esophageal fistula can be classified into congenital and acquired type. Congenital fistulas are secondary to developmental anomaly. Acquired fistulas are usually secondary to trauma (either oesophagus or trachea) or secondary to malignant disease. Tracheo-esophageal fistula caused by prolonged endotracheal tube intubation and as a complication of surgical procedures of oesophagus, tracheal and surrounding structures are rare. Dentures and dental plates are being swallowed or inhaled by patients, most of them do not cause any complication [1], but in some, it can cause trauma to the oesophagus and lead to fistula formation. The sites of these fistulas vary, in most cases they occur above the carina, involvement of the right or left bronchus or any great vessel can result in high mortality [2]. The diagnosis of tracheo-esophageal fistula secondary to dental prosthesis is very challenging for two reasons. Firstly most of the dental prosthesis available is radiolucent, and not visible in routine radiological investigation (fluoroscopy and radiography) [3]. Secondly, patients with history of swallowed or inhaled dental prosthesis may be asymptomatic initially and develop symptoms over the time [4]. There are some suggestions in the literature for this problem, one to change the dental prosthesis to radiopaque denture base materials [5] and second to use of CT scan with the aid of similar dental prosthesis material placed in scanning field for the reference [6]. Changing dental prosthesis material to radiopaque has been considered by the dentist, and if that is implemented universally, it will be easy to diagnose dental foreign body in upper aero-digestive tract. CT is superior to conventional radiograph because of grater contrast resolution than conventional radiography, but there are draw back in this clinical scenario. As there are many factors affect contrast resolution of a CT scan and if the foreign body is too small it can be missed between two cuts.

In our patient, during initial referral he underwent routine investigations including OGD which could not elicit the diagnosis. As the dental plate which he swallowed was radiolucent, the routine radiography did not show any foreign body. He underwent OGD 4 months after he swallowed dental plate, as the dental plate eroded the anterior oesophageal wall it was not visible during initial OGD in the oesophagus. As patient failed to reveal the lost denture during initial consultation and with underlying alcoholism it was difficult to raise the suspicion of tracheo-oesophageal fistula in the absence of aspiration.

CONCLUSION

Tracheo-esophageal fistula secondary to ingested dental palate is rare and very challenging clinical situation. When patient presents with missing, swallowed or inhaled dental plate or prosthesis, the clinician should be aware of acute and chronic presentations, its complications and available investigations to assist in diagnosis and their limitations.

CORRESPONDENCE TO

Mr S Basavaraj 40 Foxwood Rainhill Road St Helens, WA9 5UJ Phone: 01514265203 E-mail: sbbki@yahoo.com

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Author Information

Sreeshyla Basavaraj, MRCS Ed, DLO
Specialist Registrar

Shyam Duvvi, MRCS, MS, DLOHNS
Clinical Fellow in Otolaryngology

S. Hampal, FRCS
Consultant in Otolaryngology

Girish Boggaram, MRCS, DLO
Senior House Officer

Rajiv Ravi, MBBS
Senior House Officer