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Case report

Management of concomitant congenital tracheo-oesophageal fistula and cancer of the oesophago–gastric junction in an adult

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Abstract

Congenital tracheo-oesophageal fistula in the adult is rare, and there have only been 16 such reported cases in the English literature. The concomitant presence of a cancer of the oesophago–gastric junction however has not been previously reported, and presents a treatment dilemma as to whether a staged or simultaneous surgical treatment should be performed. We report such a case that was successfully treated by staged surgical therapy.

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Keywords: Tracheo-oesophageal fistula; Congenital; Oesophageal cancer; Oesophagectomy

1. Introduction

Congenital tracheo-oesophageal fistula (TOF) in the adult is rare, and even more so is the concomitant presence of an oesophageal carcinoma. We report such a case that was successfully treated by staged surgical therapy.

2. Clinical summary

A 48-year-old female presented with cough and dysphagia. An obstructive tumour was seen on oendoscopy at the oesophago–gastric junction (GOJ), and histological analysis from biopsies revealed a poorly differentiated adenocarcinoma. Computed tomogram revealed a grossly dilated oesophagus secondary to an obstructive mass at the GOJ and a TOF (Fig. 1a and b). The TOF was visible on bronchoscopy on the posterior wall of the middle third of the trachea. Oendoscopic ultrasound revealed an oesophageal cancer staging of T3N1. In our Institution, such tumours are treated with neoadjuvant chemoradiation therapy prior to surgery. Because of the risk of vomiting secondary to the side effects of chemoradiation treatment and the potential complication of aspiration through the fistula, we decided to treat the TOF first before the neoadjuvant and surgical management of the oesophageal cancer. Initial treatment of TOF by tracheal stenting was unsuccessful on two separate

attempts secondary to coughing out of the stent several hours after insertion. The TOF was treated surgically via a left cervical incision along the inner border of the sternocleidomastoid muscle. Following identification of the TOF, the fistula was divided (Fig. 2a and b), and both ends were repaired using a double-layer suture technique. Mediastinal adipose tissues were secured over the tracheal suture line. A sternocleidomastoid muscle flap was secured between the trachea and the oesophagus to reinforce the repair. Post-repair intraoperative bronchoscopy confirmed the closure of the fistula and barium swallow on postoperative day 5 showed no oesophageal leakage or TOF. Following an uncomplicated postoperative recovery, she underwent neoadjuvant chemoradiation treatment of her oesophageal carcinoma, and followed by an en bloc Ivor-Lewis type surgical resection with two field lymphadenectomy. Postoperatively, she recovered well and at 15 months follow-up, she remained symptom free. Histopathology showed a stage I (T1N0) carcinoma.

3. Discussion

Majority of the congenital TOF presents in the neonatal period. Presentation in the adulthood is rare and there have only been 16 such reported cases in the English literature [1]. Successful surgical treatments of congenital TOF in the adults using different approaches have been well described previously [1–4]. The concomitant presence of oesophageal carcinoma however has not been previously reported and presents a treatment dilemma as to whether a staged or simultaneous surgical treatment should be performed.

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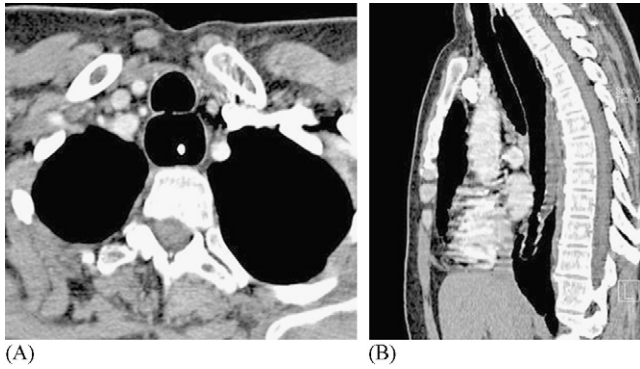


Fig. 1. (A) Sagittal section of a CT scan revealing a congenital tracheo-oesophageal fistula. (B) Transverse section of a CT scan revealing a congenital tracheo-oesophageal fistula.

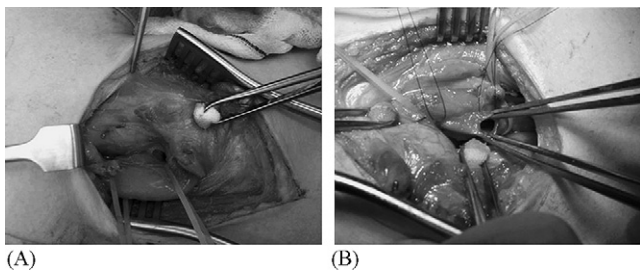


Fig. 2. (A) Intraoperative picture of the congenital TOF. The oesophagus has been retracted with two separate umbilical tapes. (B) The TOF has been divided revealing a communication into the oesophagus.

A simultaneous approach would have the advantages of subjecting the patient to only one admission and operation. This could also potentially achieve a shorter duration of overall operative time and hospital stay. As the preoperative staging of the oesophageal carcinoma was T3N1, neoadjuvant chemoradiation treatment prior to surgery is mandatory in our study protocol. We were however concerned about the risks of vomiting and aspiration through the fistula secondary to the effects of chemoradiation therapy.

On the other hand, a staged repair of treating the TOF first has the advantages of working on healthy non-irradiated tissue thereby maximizing the chances of surgical success. This strategy also allows the patient to recover and time for the TOF repair to heal before undergoing neoadjuvant treatment. Based on these rationales, a staged operation was carried out and resulted in a successful outcome.

In conclusion, we report an unusual case of concomitant congenital TOF and oesophageal carcinoma in an adult that was successfully treated by staged surgical therapy.

References

- [1] Zacharias J, Genc O, Goldstraw P. Congenital tracheoesophageal fistulas presenting in adults: presentation of two cases and a synopsis of the literature. *J Thorac Cardiovasc Surg* 2004;128(2):316–8.
- [2] Holman WL, Vaezy A, Postlethwait RW, Bridgman A. Surgical treatment of H-type tracheoesophageal fistula diagnosed in adult. *Ann Thorac Surg* 1986;41:453–4.
- [3] Black RJ. Congenital tracheo-oesophageal fistula in the adult. *Thorax* 1982;37:61–3.
- [4] Newberry D, Sharma V, Reiff D, De Lorenzo FA. A little cough for 40 years. *Lancet* 1999;354:1174.

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