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CASE IMAGE

Malignant tracheoesophageal fistula treated with septal occluder device

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Key Clinical Message

Septal occluder devices can be used with palliative intent to close tracheoesophageal fistulas and improve the quality of life of patients.

KEYWORDS

aspiration pneumonia, dyspnea, esophageal cancer, transesophageal fistula

1 | CASE PRESENTATION

A 66-year-old male with squamous cell carcinoma of the esophagus treated with esophagectomy complicated with tracheoesophageal fistula (TEF) who underwent simultaneous esophageal stent and tracheal stent placement 2 months prior to total parental nutrition presented to the emergency department with cough and shortness of breath. His initial vital signs were normal, with an oxygenation saturation of 94% on room air. On physical examination, fine crackles could be heard at the bases. Chest x-ray revealed right lower lobe infiltrates. An esophagogram revealed esophageal leakage and extension of contrast agent in the trachea. The case was discussed in a multidisciplinary meeting, and the decision was made to proceed with septal occluder device placement, which is commonly used for atrial septal defect (ASD) closure. Rigid bronchoscopy was used to remove the tracheal stent. Endoscopy was performed simultaneously to remove the esophageal stent. The TEF was located in the posterior wall of the trachea near the main carina and measured 4 mm in maximal diameter. A glide wire was passed through the esophagus into the trachea. A 60 cm 7 French sheath was advanced from the esophagus into the trachea through the fistula under direct guidance. (Figure 1A) A 12 mm Amplatzer occluder device was advanced over a sheath under direct visualization via a bronchoscope. The septal occluder device was successfully deployed under direct visualization via bronchoscope. (Figure 1B) Final assessment via bronchoscopy, endoscopy, and fluoroscopy revealed that there was no residual flush in the trachea upon injection into the esophagus. The discs were well seated. The following day esophagogram did not show esophageal leakage. He started an oral diet and was discharged 3 days after the procedure. He remained stable

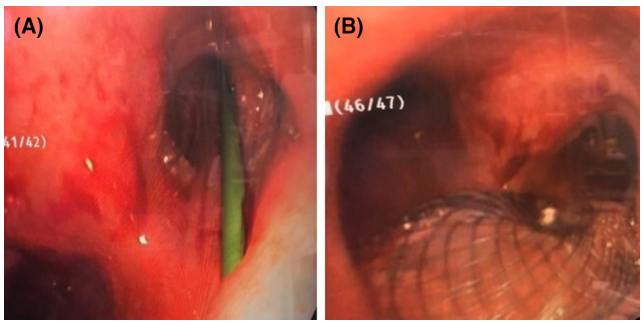

FIGURE 1 (A) Bronchoscopy image showing a glide wire with a sheath in the posterior wall of the trachea near the main carina passing through the esophagus in a 4 mm diameter tracheoesophageal fistula. (B) Bronchoscopy image showing a well-seated septal occluder device in the trachea with satisfactory closure of the tracheoesophageal fistula.

at the 2-month follow-up. The patient opted for palliative care but was able to tolerate oral food without any significant complications of the procedure. He had a better quality of life in his final days and died 6 months after the intervention under palliative care treatment.

TEF is an abnormal communication between the trachea and the esophagus that can cause severe complications including aspiration pneumonia, sepsis, and death. TEF can be benign or malignant. Approximately 75% of the patients had a malignant TEF.[1] Scordamaglio and colleagues first reported the use of an ASD occluder device to treat TEF.[2] Septal occluder placement for TEF is rare, risk includes severe airway obstruction.[3] Here, we describe a patient with a malignant TEF who was successfully treated with placement of a septal occluder device. The case described in this patient is unique in that this patient failed the conventional strategy of esophageal and tracheal stents. The patient tolerated an oral diet without complications at 6 months of follow-up. This case contributes to the limited pool of literature, highlighting the use of septal occluder device for malignant TEF without significant complications. Septal occluder devices can improve the quality of life of patients with refractory TEF in the short term. Long-term follow-up studies are needed to assess the safety and efficacy of septal occluder devices for the management of malignant TEFs.

AUTHOR CONTRIBUTIONS

Atif Saleem Siddiqui: Conceptualization; data curation; formal analysis; funding acquisition; investigation; methodology; project administration; resources; software; supervision; validation; visualization; writing – original draft; writing – review and editing.

FUNDING INFORMATION

None.

DATA AVAILABILITY STATEMENT

Data is protected and saved in password protected computer and USB and will be available upon request.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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