

Carotid Blow-Out Masquerading as Gastrointestinal Hemorrhage: A Case Report

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Abstract

Tracheo-esophageal prostheses (TEP) are commonly used for speech restoration following laryngectomy for laryngeal cancer. The device is placed through the tracheoesophageal wall into the esophagus superior to the tracheal stoma. We report a case of a ruptured carotid artery presenting as a gastrointestinal bleed. The diagnosis was elusive for a while as initial extensive workup for a source of gastrointestinal bleeding was unsuccessful. To the best of our knowledge, this is the first reported case of a TEP device causing a carotid blow out. This case highlights the importance of looking for atypical sources of bleeding when routine investigations do not provide an etiology.

Keywords: Tracheo-esophageal prostheses; Carotid blowout; Gastrointestinal bleed

Introduction

Tracheo-esophageal prostheses (TEP) are commonly used for speech restoration following laryngectomy for laryngeal cancer. The device is placed through the tracheoesophageal wall into the esophagus superior to the tracheal stoma [1]. The complications from indwelling prostheses are infrequent and include fungal colonization of prosthesis, peri-prosthetic leaks, granulation tissue formation and aspiration of the de-

vice [2-5]. We report a case of carotid blowout presenting as a gastrointestinal bleed. To the best of our knowledge, this is the first reported case of a TEP device causing a carotid blow out.

Case Report

A 79-year-old Caucasian male with a history of total laryngectomy for laryngeal cancer presented with an upper gastrointestinal bleed. He had received concomitant radiation therapy, which was complicated by thyroid cancer requiring thyroidectomy. He also developed post radiation esophageal strictures and a percutaneous gastrostomy tube was used for feeding. A tracheoesophageal prosthesis was placed for assistance with speech. He had done well for nearly a decade. During this presentation, work up for gastrointestinal bleed with a limited endoscopy and a tagged red blood cell scan did not reveal an active source of bleeding. Given his history of surgery, a nasopharyngoscopy was performed which was unremarkable. A computerized tomography (CT) scan of the neck was also done which did not show any source of bleeding.

During his hospitalization, he had an episode of massive hemorrhage with blood pouring from this tracheostomy, per-

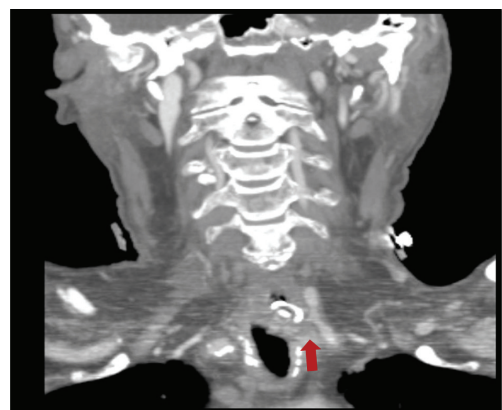


Figure 1. CT neck showing close proximity of the TEP device to the left common carotid.

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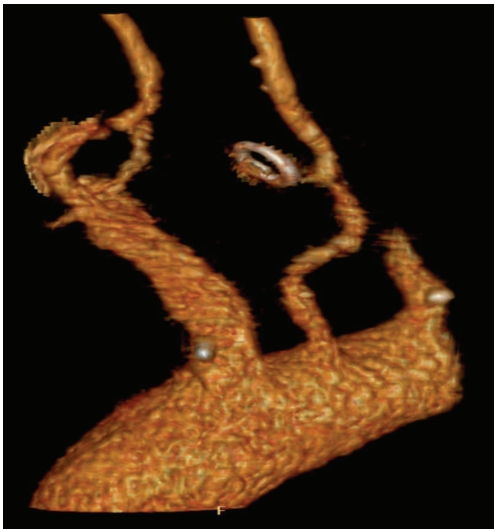


Figure 2. 3D reconstruction showing possible site of bleed from the common carotid into the TEP device.

cutaneous gastrostomy tube and from his mouth. He had a cardiac arrest from hypovolemic shock and was resuscitated with massive transfusions with subsequent return of circulation. An emergent angiography of the neck was performed



Figure 3. Carotid Angiogram showing oozing of blood into the TEP device.

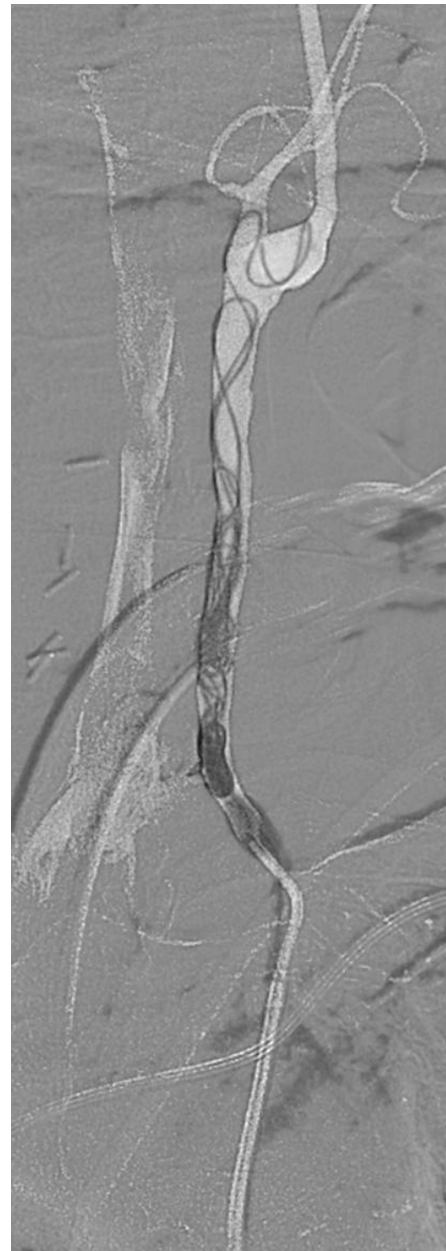


Figure 4. CTA of the left common carotid artery post embolization and coiling showing successful hemostasis.

that identified the bleeding source to be the left common carotid artery at the site of the TEP device. Coiling and gel foam embolization of the left common carotid was able to achieve hemostasis. His hemodynamic status stabilized after the procedure and no further bleeding was noted in the following days. A follow up CT brain following the embolization of the carotid artery did not reveal any areas of cerebral ischemia. On retrospective review of CT scan of the neck, we were able to appreciate the TEP device abutting the wall of the common carotid (Fig. 1, 2). This was confirmed by the carotid angiogram which showed active hemorrhage from

the common carotid (Fig. 3, 4). The patient had irradiation to his neck which predisposed him to the acute blowout of the common carotid. The bleeding from the common carotid artery which was initially sentinel, had found its way into the gastrointestinal tract through the TEP and had presented as a likely gastrointestinal source of bleeding.

Discussion

Carotid blow-out or carotid artery rupture is a life threatening event with high mortality and morbidity from neurological deficits [6-8]. It is usually seen in patients with malignant tumors of the head and neck, especially after radiation therapy or surgery but is also reported after trauma [9, 10]. The common carotid artery lies unguarded and very close to the skin and the tracheal stoma following a radical neck dissection, and thyroidectomy [7]. Most episodes are noted within weeks to months following surgery and are thought to be predisposed by local infections [7]. The most common site of carotid blow-out reported is the internal carotid artery followed by the common carotid and external carotid artery [11]. Angiography is the gold standard for establishing diagnosis. Therapy involves either carotid occlusion (by coils or detachable balloons) or endovascular stents [11].

Conclusion

This case illustrates the importance of looking for a carotid source of hemorrhage in patients with a TEP device and that might present as a gastrointestinal source of bleeding.

Consent Declaration

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

NP authored the case presentation part of the manuscript and procured the relevant images. MS authored the discussion

part and provided intellectual assistance. All authors read and approved the final manuscript.

Abbreviations

TEP: Tracheo-esophageal prosthesis; CT: Computerized tomography

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