Objectives: Aortoesophageal fistula (AEF) is a rare but frequently fatal cause of upper gastrointestinal bleeding. Despite the emergence of endovascular interventions for initial treatment of AEF, management options for involvement of the arch vessels remain unclear. We report a case of a 60-year-old female patient with an AEF complicated by ruptured aortic arch pseudoaneurysm at the level of the left common carotid artery. Due to her prior history of liver disease, compensated cirrhosis and morbid obesity, she was not a candidate for open surgical repair of the AEF. However, pursuant to the family’s wishes, we pursued an endovascular option to abate the ongoing hemorrhage.

Methods: Treatment consisted of endovascular exclusion of the AEF and the aortic arch vessels using a Gore CTAG® device via access from the bilateral common femoral arteries and advancement across the aortic arch into the ascending aorta (Fig. 1). Stent grafting of the innominate and left common carotid arteries was performed using Viabahn® stents, parked just proximal to the thoracic stent graft, via retrograde cannulation of the bilateral common carotid arteries.

Results: Completion angiogram demonstrated exclusion of the AEF with excellent flow into the innominate and left common carotid arteries (Fig. 2). Intraoperatively, the estimated blood loss was 750ml, and she was administered 8 units of packed RBCs, 2 units of FFP, and 1 unit of platelets.

Conclusions: Although the patient eventually passed away two-and-a-half months after the procedure due to a complicated hospital course including abdominal sepsis and a prolonged stay in the intensive care unit, this case represents a technically feasible approach for addressing AEF with aortic arch vessel involvement in a patient who was not a candidate for open surgical repair.