

Introduction

Endoscopic vacuum therapy (EVT) uses vacuum assisted wound closure systems to aid management of perforations or post-surgical anastomotic leaks in the gastrointestinal tract (GI). This study describes the experience of EVT in the upper GI tract in a tertiary centre.

Methods

Patients undergoing EVT using Eso-SPONGE® between August 2020 -September 2023 at Imperial College Healthcare NHS Trust were analysed retrospectively. Recorded variables included patient demographics, procedural characteristics, response to therapy, and follow up data.

Results

10 patients underwent EVT between August 2020-September 2023 (6 males; mean age 65), with a total of 54 procedures and median 4.5 procedures per patient (range 2-14). The indications for EVT were anastomotic leakage post Ivor Lewis oesophagectomy (n=3), anastomotic leak post oesophagectomy (n=3), Boerhave's syndrome (n=2), oesophageal perforation during transoesophageal echocardiography (n=1) and oesophageal tear post video assisted thoracoscopic surgery (n=1). 69% of procedures were performed under general anaesthetic (GA), the rest under conscious sedation with median doses of medications of 4 milligrams midazolam and 75 micrograms fentanyl. Median size of mucosal defect was 25mm (range 3-40mm).

EVT was successful 70% patients (95% CI: 42% - 98%). Median time to mucosal healing was 26 days (range 5-80 days) and total median length of stay 62 days (range 40-145 days). Nutrition was maintained via total parenteral nutrition (TPN) in 38% cases and feeding jejunostomy in 26%. EVT therapy was unsuccessful in achieving mucosal healing in 3 patients. Of these, 2 patients (both anastomotic leak post oesophagectomy) were successfully managed conservatively through remaining nil by mouth with TPN (Mucosal healing shown on average of 29 days) and 1 patient (post boerhave's) underwent oesophageal stenting over the defect, with mucosal healing shown at 126 days. No patients required repeat surgical intervention. There was one adverse event in a patient who experienced proximal migration of the Eso-SPONGE® after it had been left off suction. They were successfully managed conservatively with confirmation of mucosal healing at 24 days.

Conclusions

In our tertiary centre we demonstrate a high success rate of EVT-assisted closure with a low associated adverse event rate. EVT is shown to be beneficial in a range of indications including the management of perforations and post-surgical anastomotic leaks and can be successfully performed under either GA or conscious sedation. Further experience with EVT will allow for increased understanding of this technique and where the application of EVT may be most beneficial.