Endoscopic Clip Esophagoplasty for Selected Esophageal Perforations: A Case Series and Literature Review

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INTRODUCTION

Current tendencies shift towards minimally invasive techniques for management of esophageal perforations. Efforts are made to identify candidates in order to avoid the morbidity of open repair. Authors describe the use of endoscopic clip esophagoplasty (ECE) for poor stent candidates in setting of esophageal perforation in a tertiary center.

METHODS AND PROCEDURES

Data from four adult esophageal perforations managed with ECE at the East Carolina University Division of Thoracic and Foregut Surgery was reviewed using electronic health record & operative videos.

Patient demographics, characteristics, operative findings prompting decision of ECE instead of traditional stent placement, postoperative course and current follow-up were evaluated. The ECE was performed using Instinct™ Endoscopic Hemoclip (Cook Medical, Bloomington, IN)

RESULTS

All patients who underwent ECE had no immediate complications. One patient had prolonged length of stay due to social reasons unrelated to procedure. The patients are currently followed, up to 8 months at the time of this report. There were no recorded recurrent perforations or required conversion to open salvage esophageal repair. All patients are tolerating regular diet.

STABLE 1: SUMMARY OF 4 PATIENTS INCLUDED IN THIS STUDY

Age	Gender	Etiology	Time to intervention	Diagnostic method	Initial treatment	Number of endoclips	Anatomical Level of perforation	Hospital length of stay (days)
37	Male	Iatrogenic	8 hours	OSH EGD and CT Chest	ECE	3	Above Z line, 25 cm from incisors	1
42	Male	Boerhaave	8 days from stenting to clipping	CT Chest at OSH	Stent, then ECE	6	Above Z line, 36 cm from incisors	36
61	Male	Iatrogenic	11 hours	EGD at OSH	ECE	7	2-3 cm above GEJ	7
48	Female	Iatrogenic	5 hours	EGD at OSH	ECE	10	30-35 cm from incisors	5

OSH= outside hospital, EGD= esophagogastroduodenoscopy, GEJ: gastroesophageal junction

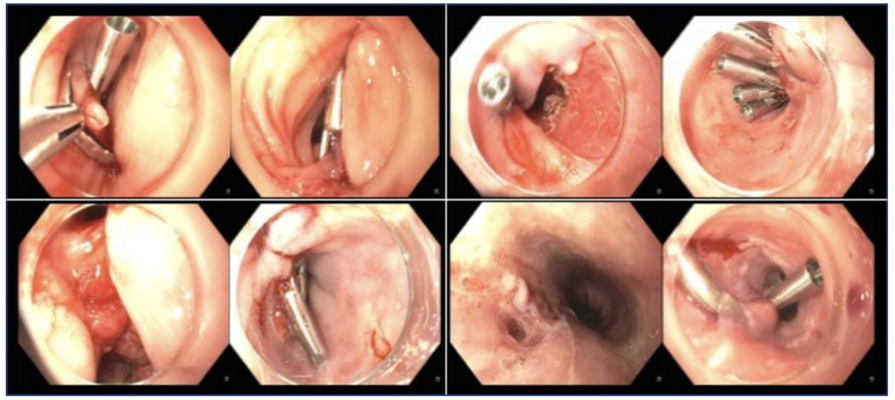


Figure 1: Pre-ECE & post-ECE

CONCLUSION

Endoscopic clip esophagoplasty appears to be a safe and effective treatment for esophageal perforations, offering an alternative for patients whose anatomy or perforation site is not amenable to stenting. Individually tailored therapies based on the patient's condition and performed by experienced surgeons at large volume centers are necessary. Extensive clinical and radiologic follow up must be conducted, proving that minimally invasive esophageal approaches are more than small incisions and carry maximal surgeon involvement beyond the operative theater.

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