

Open vs. Endoscopic cricopharyngeal myotomy; is there a difference?

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Introduction

The upper esophageal sphincter (UES) is composed largely of the cricopharyngeus muscle (CP) and acts as the gatekeeper to the esophagus regulating reflux and passage of the food bolus. Dysfunction of the UES can lead to various clinical derangements. There are multiple methods of treating UES dysfunction, but myotomy has been shown to be the most definitive means. We aim to evaluate the difference between open and endoscopic CP myotomy (CPM).

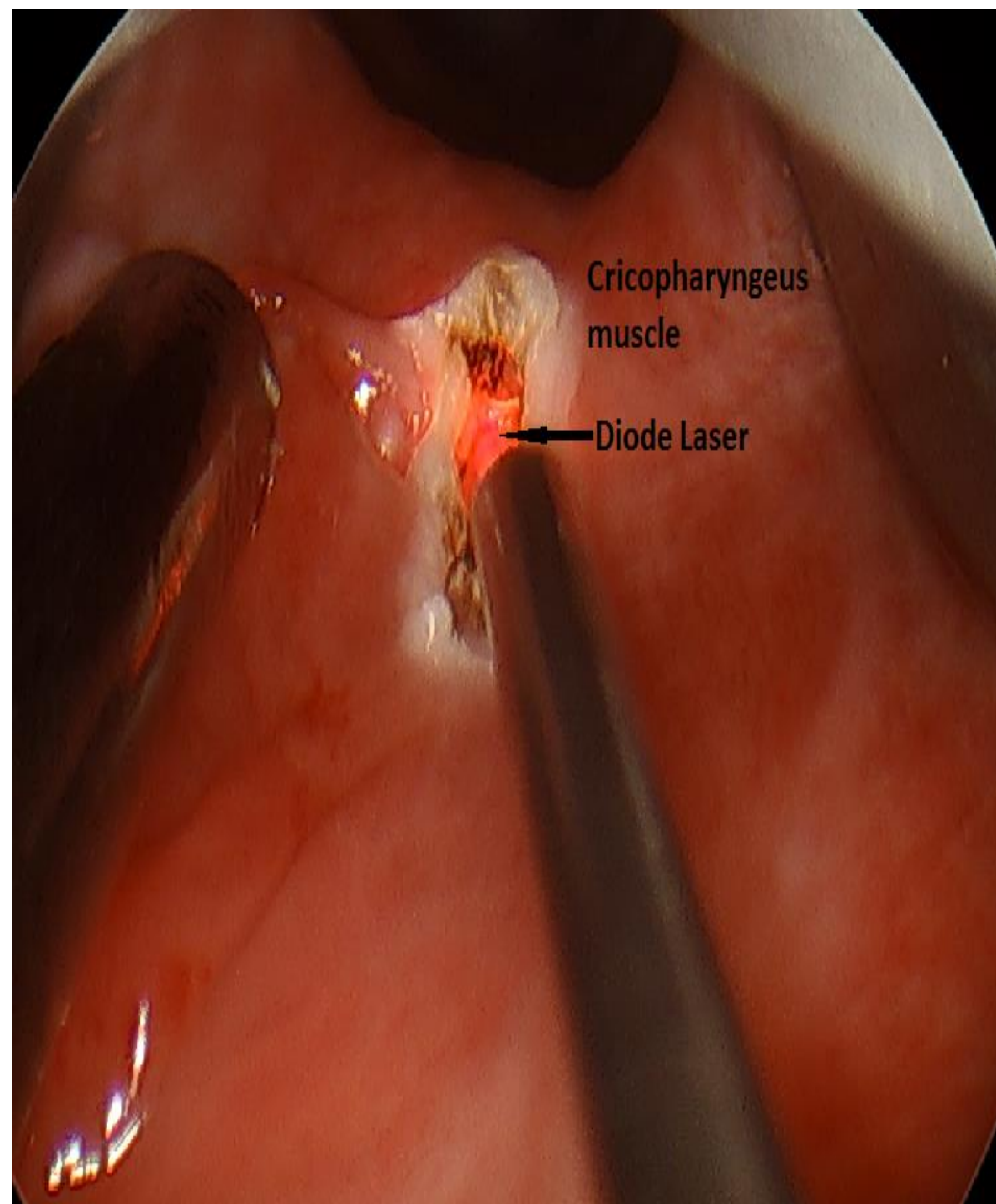
Methods

A retrospective review of all patients undergoing endoscopic and open CPM was undertaken by accessing the senior authors' surgical databases from January 2010 – March 2015. We recorded demographic, clinical, operative, hospital, and postoperative data for both groups. The endoscopic and open CPM groups were directly compared.

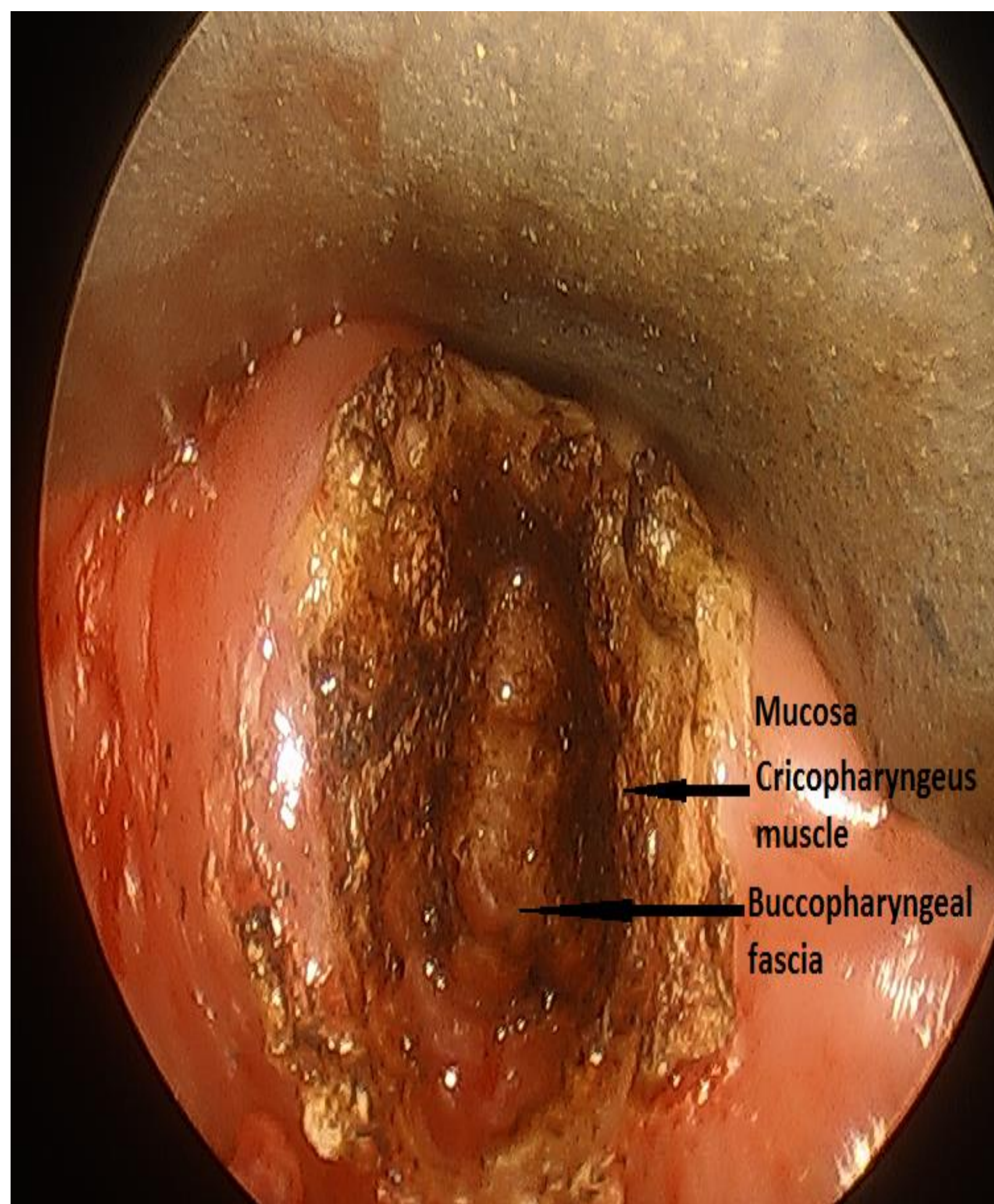
Outcome Data

Variable	Open CP Myotomy	Endo CP Myotomy	p value
Preop UES Pressure	188 mmHg	201 mmHg	0.488
Length of Case	114.6 minutes	99.8 minutes	0.005
Time to Oral Intake	1.4 days	0.35 days	0.001
Length of Stay	2.02 days	2.2 days	0.557
Complications	5 patients	2 patients	0.240
Followup	10.3 months	9.7 months	0.391
No Improvement	8 patients	1 patient	0.015
Moderate Improvement	12 patients	15 patients	0.384
Total Improvement	22 patients	27 patients	

Figure 1: Outcome data of open and endoscopic groups.



Endoscopic view with cricopharyngeus exposed and mucosal incision.



Endoscopic view with mucosa and cricopharyngeus incised and buccopharyngeal fascia in view.

Results

Our cohort consisted of 42 open and 43 endoscopic CPM patients. There were 25 males and 17 females in the open group and 10 males and 33 females in the endoscopic group. The primary diagnosis for both groups was cricopharyngeal hyperfunction. We found a statistically significant difference in surgical time and time to oral intake which were shorter for the endoscopic group. Also, the number of patients with no improvement in symptoms higher in the open group.

There was no difference in UES preop pressure, hospital stay, complication rate, length of follow up, or number of patients with moderate or total improvement between cohorts.

Conclusion

Endoscopic CPM is a safe and effective alternative to the open approach. Patients undergoing endoscopic CPM have shorter operative times and time to oral intake when compared to the open approach. The endoscopic cohort also had postoperative symptom improvement and complication rate similar to the open group.

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