

Factors associated with higher complication rates amongst patients requiring endoscopic intervention for esophageal food impaction

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Background

- The American society of Gastrointestinal Endoscopy (ASGE) recommends that endoscopic intervention should occur within 24 hours to minimize complications in patients presenting with food impaction¹.
- The aim of our study was to ascertain whether complication rates were higher in patients undergoing endoscopy more than 6 hours after presentation compared to those undergoing intervention within 6 hours and to identify factors associated with patients that develop complications.

Methods

- This study received IRB approval.
- The electronic medical record at a single tertiary care center was queried for esophagogastroduodenoscopies (EGD) with food impaction over a ten-year period.
- Information on patient demographics, medical history, timing of presentation, timing of EGD, procedural and post-procedural complications was obtained.
- Rates of complications were compared between encounters in which a patient had an EGD within 6 hours from initial presentation versus greater than 6 hours.
- Data was compared using Fishers Exact test for categorical variables and a two-tailed t-test for continuous variables.

Results

- 127 records met the inclusion criteria, with 86 undergoing an EGD within 6 hours.
- Those undergoing EGD within 6 hours were younger (48.6 vs 60.4 p<.001), less likely to have heart disease (5.8% vs 17.1%, p =.055), and less likely to be on anticoagulation (0% vs 9.8%, p=.0098).
- Patients that underwent an EGD within 6 hours had statistically significant fewer post-procedural complications (0% vs 12.2%, p=.0029) and fewer complications overall (3.5% vs 14.6%, p=.057).

	EGD within 6 hours	EGD after 6 Hours	P value
Total	86	41	
Average Age	48.6 (18.2)	60.4 (17.1)	<.001
Male Sex	64 (74.4)	27 (65.9)	.40
On Anticoagulation	0 (0)	4 (9.8)	.0098
History of Heart Disease	5 (5.8)	7 (17.1)	.055
History of Lung Disease	8 (9.3)	6 (14.6)	.38
Prior Impaction	33 (38.4)	11 (26.8)	.24

Table 1. Patient Characteristics

	EGD within 6 hours	EGD after 6 Hours	P value
Total	86	41	
Procedure complication	3 (3.5)	1 (2.4)	1
Post-procedure complication	0 (0)	5 (12.2)	.0029
Any Complication	3 (3.5)	6 (14.6)	.057

Table 2. Patient Outcomes

Total	5
Average Age	78.4 (68-89)
Average Time to EGD (Hours)*	30.7 (7.5-60)
Male Gender	4
Transfer From Outside Facility	2
Cardiac or Pulmonary Comorbidity	3

* Time of presentation to outside facility was used for the 2 transfers. One transfer did not have documentation of exact timing of initial presentation but did have a minimum of 48-hour admission at the outside facility before transfer so it was calculated at 48 hours + time to EGD from arrival to our facility.

Table 3. Characteristics of Patients with Post-Procedure Complications

Results Continued

- The incidence of procedural complications was similar in both groups (3.5% vs 2.4%, p=1).
- Amongst the 5 cases where post-procedural complications occurred, average age was 78.4 (range of 68 to 89) and average time from presentation to EGD was 8 hours. Two of the 5 were transferred from an outside facility, and 3 out of the 5 had co-morbid heart or lung disease.
- The post-procedural complication was aspiration pneumonia.

Discussion

- There is a higher risk of post-procedural complications in elderly patients that received an EGD more than 6 hours after initial presentation.
- Those patients were also more likely to have cardiopulmonary comorbidities and 40% of them were transferred from outside facilities.
- There should be an effort to reduce interfacility transfer time in order to reduce rates of complication, especially amongst elderly patients with comorbidities.

References

- ASGE Standards of Practice Committee, Ikenberry SO, Jue TL, et al. Management of ingested foreign bodies and food impactions. *Gastrointest Endosc.* 2011;73(6):1085-1091. doi:10.1016/j.gie.2010.11.010