

Background

- Esophageal food impaction (EFI) resulting in obstruction is a common gastrointestinal emergency most often treated with disimpaction by emergent upper endoscopy¹.
- EFI's may occur secondary to the underlying esophageal stricture, eosinophilic esophagitis, mass, or underlying dysmotility².
- We sought to understand the association between the clinical setting, including the emergency department (ED), operating room (OR), or endoscopy unit (EU), in which endoscopic disimpaction was performed with clinical outcomes among patients presenting with EFI.

Methods

- We conducted a retrospective review of 409 adult patients that presented to the ED with suspected EFI at any of the three Lifespan academic or community hospital sites from 2015 to 2021.
- We compared 30-day readmission and length of stay (LOS), among individuals who were treated with an upper endoscopy. Chi-square, Fisher exact test, and Student's t-tests were performed for descriptive analysis to report demographics and other health-related measurements.
- The multivariable regression models were adjusted for age, race, ethnicity, Charlson Comorbidity Index score (CCI), and if the procedure was done during the weekend.
- The multivariable logistic regression model was adjusted for age, CCI, and if the procedure was done during the weekend, or after 5 pm. Analysis was performed in SAS version 9.4.

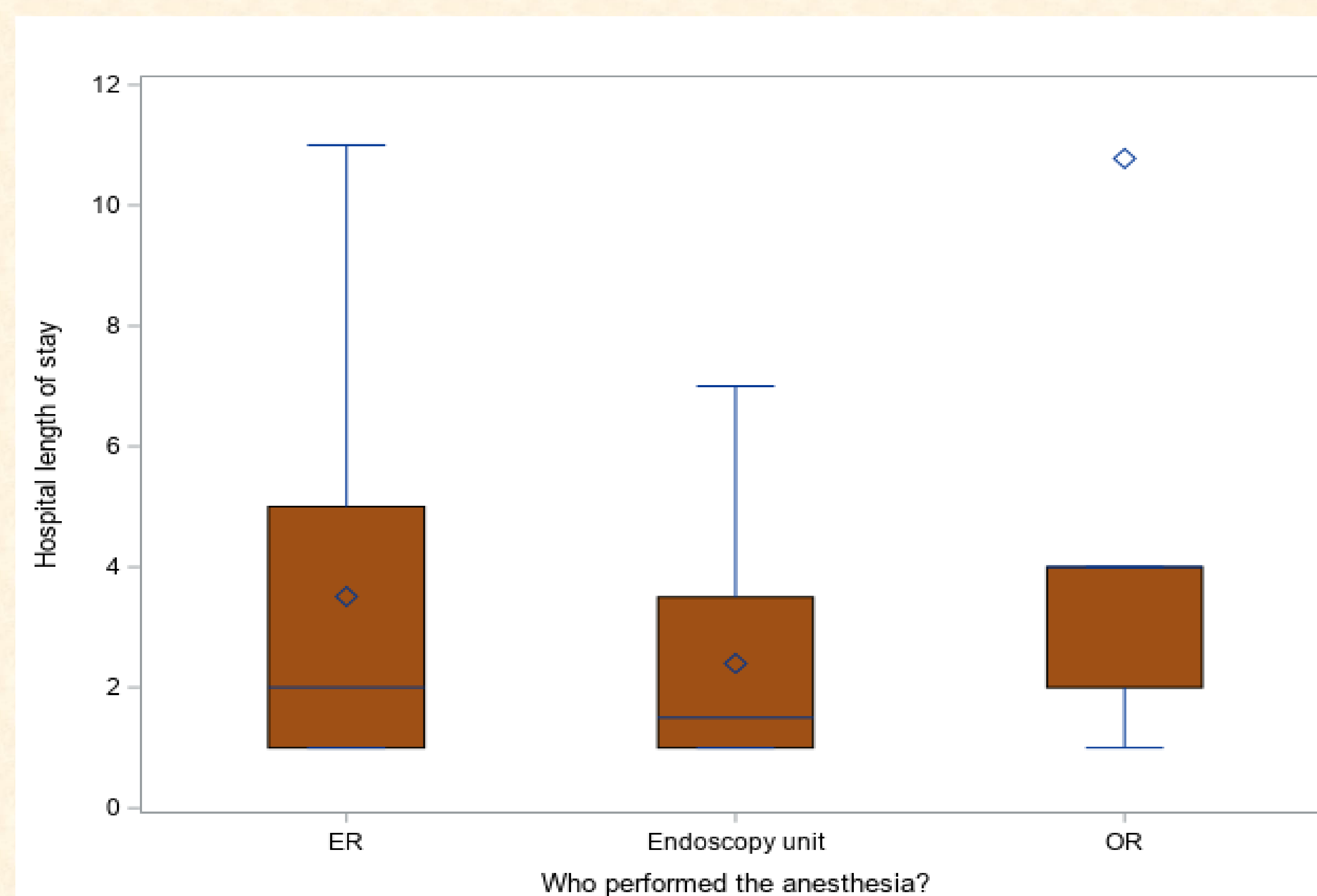
Results

- The majority of the procedures were done in the EU (62.2%), followed by ED (29.5%) and OR (8.3%).
- Eighty-five percent of the individuals were white, 6.4% were Hispanic or Latino, and average age at presentation was 57.0. Individuals undergoing upper endoscopy in the ER were sicker, with a mean CCI of 2.8, compared with 1.8 at EU, p-value=0.0126.
- Individuals having upper endoscopy in the ED were observed to have over 2-fold greater likelihood for 30-day readmission compared with the EU, OR 95%CI 2.3 [1.03-5.13].

Table 1: Baseline characteristics of patients that were admitted at ED who undergo endoscopic treatment of food impaction.

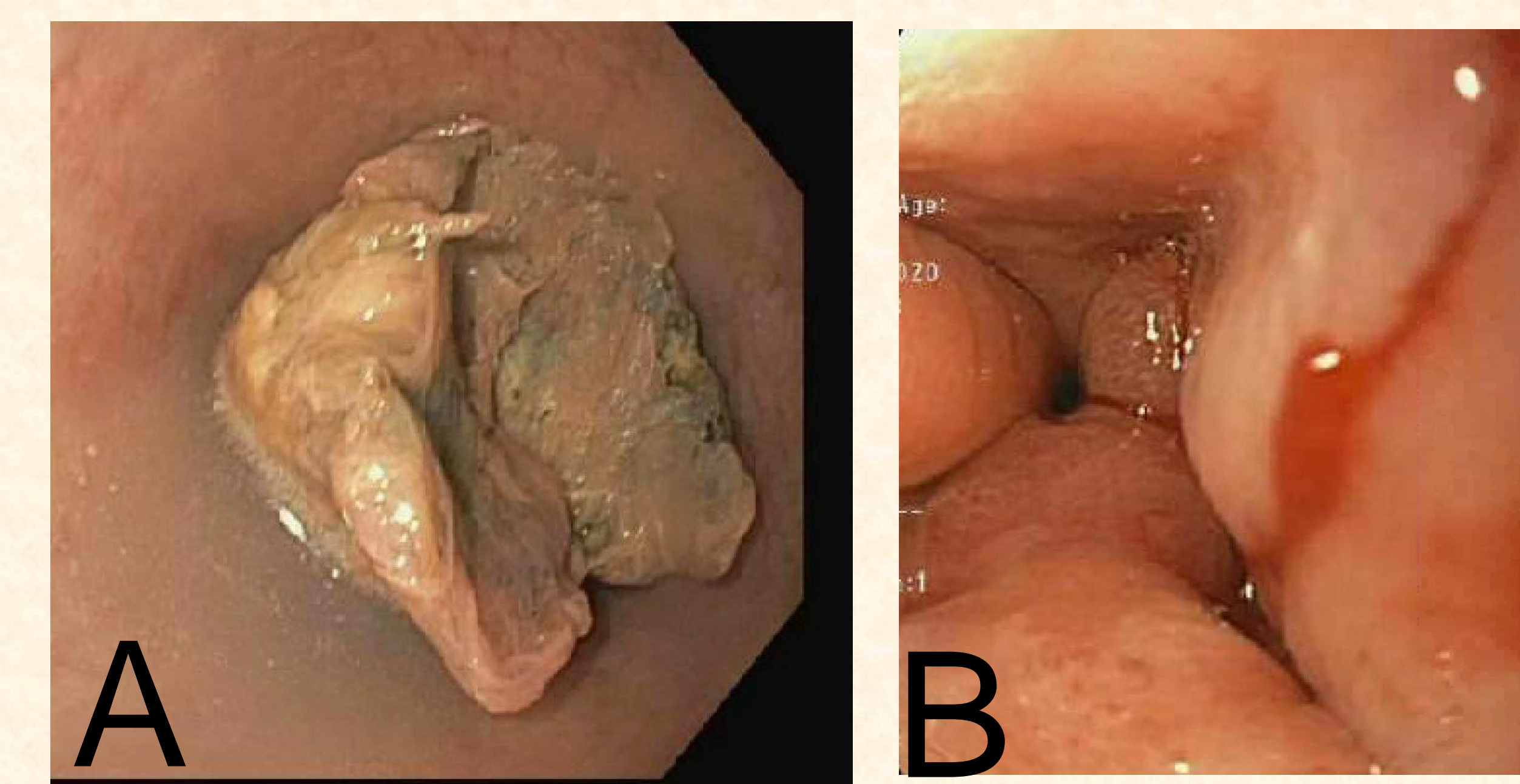
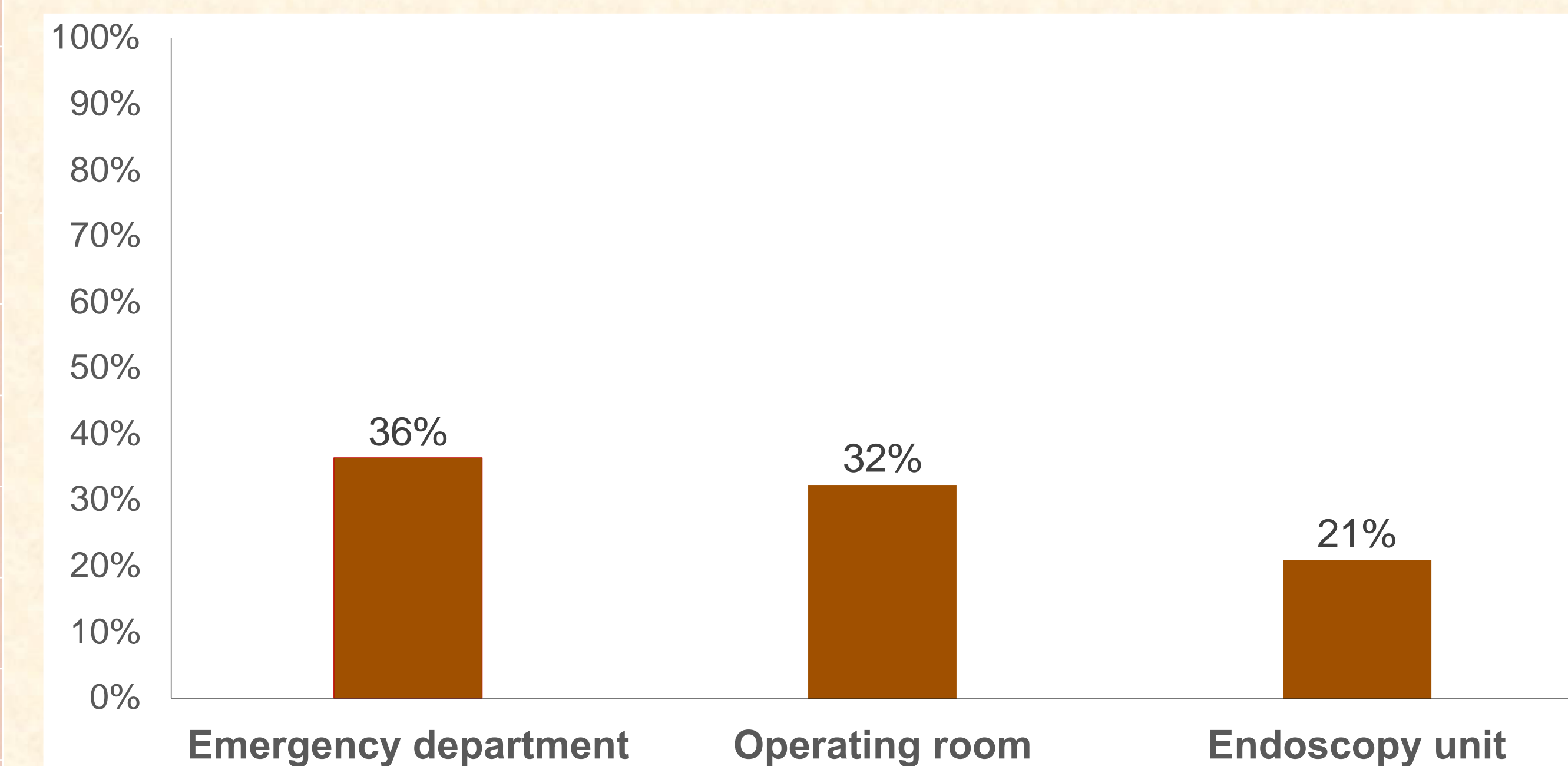
Patient characteristics	Study groups					Overall (n=409)
	Endoscopy unit (n=254, 62.2%)	ER (n=121, 29.5%)	P-value	OR (n=34, 8.3%)	P-value	
Male gender, no. (%)	166 (65.4)	65 (53.7)	0.0303	23 (67.7)	0.7915	254 (62.1)
White or Caucasian race, no. (%)	213 (83.9)	103 (85.1)	0.1233	31 (91.2)	0.7504	347 (84.8)
Hispanic or Latino, no. (%)	16 (6.3)	8 (6.6)	0.9080	2 (5.9)	0.9249	26 (6.4)
Age at admission, mean (SD)	57.6 (21.0)	56.5 (20.7)	0.6640	54.0 (25.6)	0.3693	57.0 (21.3)
Hospitalized, no. (%)	40 (15.8)	45 (37.2)	<0.0001	9 (26.5)	0.1181	94 (23.0)
Procedure done during weekend, no. (%)	83 (32.7)	31 (25.6)	0.1648	11 (32.4)	0.9698	125 (30.6)
Procedure done before 8 AM or after 5 PM	130 (51.2)	50 (41.3)	0.0740	22 (64.7)	0.1379	202 (49.4)
Indication			0.0153		0.4228	
Known Food impaction	3 (1.2)	1 (0.8)		0 (0.0)		4 (1.0)
Foreign body sensation	237 (93.3)	106 (87.6)		30 (88.2)		373 (91.2)
Foreign body in the GI tract	5 (2.0)	11 (9.1)		2 (5.9)		18 (4.4)
Removal of foreign body	9 (3.5)	3 (2.5)		2 (5.9)		14 (3.4)
CCI, mean (SD)	1.8 (2.9)	2.8 (3.7)	0.0126	2.1 (3.3)	0.5210	2.1 (3.2)
CCI > 2	64 (25.2)	46 (38.0)	0.0108	9 (26.5)	0.8726	119 (29.1)

Figure 1: LOS by where the anesthesia was performed among patients that were admitted at ED who undergo endoscopic treatment of food impaction.



- The average LOS was higher (3.5 days) among patients that had the procedure in the ED, compared with the EU (2.4 days), adjusted p-value=0.0173, but higher (10.8 days) among patients that had the procedure in the OR, compared with the ER, adjusted p-value=0.0249.

Figure 2: 30-day readmission by where the anesthesia was performed among patients that were admitted at ED who undergo endoscopic treatment of food impaction.



A. EGD showing impacted food bolus
B. Mucosal tear seen after successful removal of food bolus

Discussion

- Endoscopic food disimpaction can be safely completed in a controlled setting such as the ED, EU, or OR. We observed lower 30-day readmission and LOS when the procedure is done on the EU compared with ED.
- Therefore, whenever feasible Endoscopic food disimpaction should be favorably done in the Endoscopic Unit as compared to Emergency Room or Operating Room.

References

1. Melendez-Rosado J, Corral JE, Patel S, Badillo RJ, Francis D. Esophageal Food Impaction: Causes, Elective Intubation, and Associated Adverse Events. J Clin Gastroenterol. 2019 Mar;53(3):179-183. doi: 10.1097/MCG.0000000000001004. PMID: 29517706.
2. Prasad GA, Reddy JG, Boyd-Enders FT, Schmol JA, Lewis JT, Wongkeesong LM. Predictors of recurrent esophageal food impaction: a case-control study. J Clin Gastroenterol. 2008 Aug;42(7):771-5. doi: 10.1097/MCG.0b013e31815576d2. PMID: 18580498.