

Achalasia Patients Admitted After Per-Oral Endoscopic Myotomy (POEM) Versus Heller's Myotomy: An American Experience

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INTRODUCTION

Achalasia is a rare neurodegenerative motility disorder of the esophagus characterized by ineffective lower esophageal sphincter relaxation and peristalsis leading to dysphagia. Heller's Myotomy is the gold standard surgical procedure used to treat achalasia. However, Per-Oral Endoscopic Myotomy (POEM), a rapidly emerging minimally invasive endoscopic technique, has gained immense popularity for management of achalasia in recent years. In this study, we aimed to compare the differences for achalasia patients that were admitted to the hospital after POEM or HM in the United States (US).

METHODS

The National Inpatient Sample was utilized to identify all adult (≥ 18 years) achalasia patients that were admitted to the hospital after POEM or HM in the US from 2016–2019. Hospitalization characteristics and clinical outcomes were compared between the two subgroups. P-values ≤ 0.05 were considered statistically significant.

RESULTS

- Between 2016–2019, there were 1,885 and 11,150 achalasia patients that were admitted to the hospital after POEM and HM, respectively.
- White predominance was present in both subgroups.
- Most hospitalizations were primarily at large urban teaching hospitals.
- The mean age for POEM-related hospitalizations was 57.6 years compared to 56.7 years for the HM cohort, without a statistical difference ($p=0.13$).

VARIABLE	Achalasia Patients Admitted After Per-Oral Endoscopic Myotomy	Achalasia Patients Admitted After Heller's Myotomy	P-value
TOTAL HOSPITALIZATIONS	1,885	11,150	
MEAN AGE (years)	57.6	56.7	$p=0.395$
AGE GROUPS (years)			$p=0.136$
18 - 34	285 (15.1%)	1,365 (12.2%)	
34 - 49	305 (16.2%)	2,175 (19.5%)	
50 - 64	540 (28.6%)	3,485 (31.3%)	
65 - 79	600 (31.8%)	3,440 (30.9%)	
≥ 80	155 (8.2%)	685 (6.1%)	
GENDER			$p=0.663$
Male	935 (49.6%)	5,395 (48.4%)	
Female	950 (50.4%)	5,755 (51.6%)	
RACE			$p=0.825$
White	1,245 (68.4%)	7,260 (68.2%)	
Black	270 (14.8%)	1,540 (14.5%)	
Hispanic	175 (9.6%)	1,170 (11%)	
Asian	50 (2.8%)	275 (2.6%)	
Other	80 (4.4%)	345 (3.2%)	
CHARLSON COMORBIDITY INDEX (CCI)			$p=0.002$
CCI = 0	1,060 (56.2%)	6,690 (60.0%)	
CCI ≥ 1	825 (43.8%)	4,460 (40.0%)	
HOSPITAL REGION			$p<0.001$
Northeast	635 (33.7%)	1,995 (17.9%)	
Midwest	405 (21.5%)	2,280 (20.5%)	
South	610 (32.4%)	4,405 (39.5%)	
West	235 (12.5%)	2,470 (22.2%)	
HOSPITAL BED-SIZE			$p<0.001$
Small	45 (2.4%)	1,085 (9.7%)	
Medium	215 (11.4%)	2,250 (20.2%)	
Large	1,625 (86.2%)	7,815 (70.1%)	
HOSPITAL LOCATION			$p<0.001$
Rural	10 (0.5%)	180 (1.6%)	
Urban Non-teaching	60 (3.2%)	1,100 (9.9%)	
Urban Teaching	1,815 (96.3%)	9,870 (88.5%)	
Mean Length of Stay (days)	3.7	3.4	$p=0.356$
Mean Total Hospital Charge (\$)	66,151 (4,857)	65,468 (1,514)	$p=0.775$

RESULTS

- For achalasia patients hospitalized after POEM, the 65–79 age group had the highest proportion (31.8%) of patients, while the 50–64 age group had the highest proportion (31.3%) of patients for the HM cohort.
- A higher proportion of achalasia patients with Charlson Comorbidity Index (CCI) ≥ 1 were admitted after POEM (43.8 vs 40%, $p=0.002$) compared to HM.
- No statistical difference in the mean length of stay (3.7 vs 3.4 days, $p=0.35$) was noted between the two groups.
- No statistical difference in the mean total healthcare charge (\$66,151 vs \$65,468, $p=0.07$) was noted between the two groups.
- No inpatient mortality noted for both groups.

DISCUSSION

Studies have demonstrated POEM and HM to be efficacious and safe for management of achalasia. In this study, there was no inpatient mortality for achalasia patients admitted to the hospital after POEM or HM. Furthermore, there was no statistical difference in the mean LOS and THC between the two subgroups. These findings reflect an excellent safety profile of both procedures, and similar recovery times and costs. However, POEM is relatively less invasive than HM.

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