

Association of Inlet Patch to Barrett's Esophagus



Rishabh Khatri MD¹, Jay Patel MD¹, Jun Song MD¹, Zubair Malik MD², Michael S. Smith MD MBA³, Henry P. Parkman, MD²



¹Internal Medicine and ²Gastroenterology Section, Lewis Katz School of Medicine at Temple University Hospital, Philadelphia, PA

³Department of Gastroenterology, Division of Gastroenterology and Hepatology, Mount Sinai West & Mount Sinai Morningside Hospitals, New York, NY

BACKGROUND

- Gastric heterotopia or Inlet Patch (IP) are raised, salmon-colored patches in the cervical esophagus.
- IPs are thought to be embryologic in nature, while it is known that Barrett's Esophagus (BE) results from acid reflux.
- Though IP has been associated with BE in several studies, their relationship is not well defined.

AIM

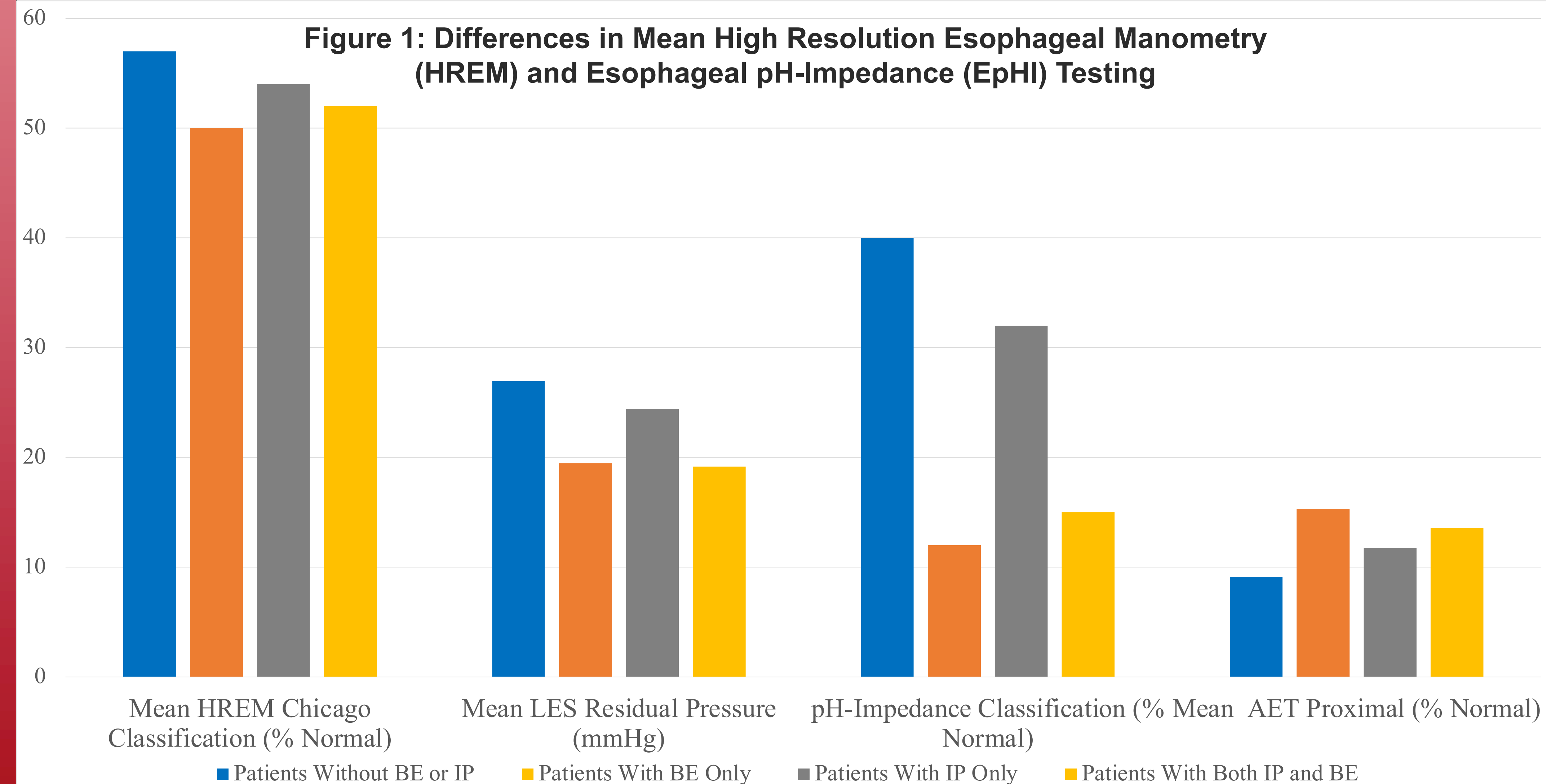
- The aim of this study is to assess endoscopic prevalence, demographic risk factors, and functional endoscopic testing via High resolution Esophageal Manometry (HREM) and Esophageal pH-Impedance (EpHI) associations between IP and BE.

METHODS

- All endoscopic, HREM and EpHI data for patients age ≥ 18 years who had EGD from January 2010 to December 2020 at a single high-volume center were reviewed.
- Age, sex, BMI, race, alcohol use and tobacco use were recorded
- Patients were grouped by presence or absence of IP and/or BE on EGD.
- ANOVA and t-test were used to calculate differences in HREM and EpHI testing.
- A multivariate regression model was constructed to identify independent variables associated with presence of IP and BE.

RESULTS

Table 1:	Patients with BE alone			Patients with IP alone			Patients with BE and IP		
Factors	OR	95% CI	p-Value	OR	95% CI	p-Value	OR	95% CI	p-Value
Age	1.02	1.02-1.03	<0.001	1.04	1.04-1.05	<0.001	1.05	1.05-1.06	<0.001
BMI	1.20	1.20-1.21	<0.001	1.02	1.01-1.02	<0.001	1.11	1.09-1.11	<0.001
Sex									
Female	Ref	-	-	-	-	-	-	-	-
Male	2.22	1.96-2.51	<0.001	1.47	1.16-1.85	<0.001	1.30	1.29-1.31	<0.001
Race									
Black	Ref	-	-	-	-	-	-	-	-
Hispanic	1.17	1.01- 1.37	<0.001	1.65	1.19 -2.29	<0.001	1.12	1.11-1.14	<0.001
Caucasian	1.87	1.64- 2.15	<0.001	2.51	1.86- 3.39	<0.001	1.68	1.67-1.70	<0.001
Asian	0.66	0.40- 1.09	0.11	0.33	0.22-0.45	0.17	0.89	0.75-0.92	0.54
Smoking Status									
Non-Smoker	Ref	-	-	-	-	-	-	-	-
Current Smoker	1.02	1.02-1.03	<0.001	1.12	1.11-1.13	<0.001	1.08	1.07-1.10	<0.001
Alcohol Status									
Non-Drinker	Ref	-	-	-	-	-	-	-	-
Current Drinker	0.46	0.28-0.76	<0.001	0.83	0.65-1.05	0.12	0.82	0.88-1.05	0.55



RESULTS

- Of 27,598 unique eligible patients who underwent EGD during the study period, 1,294 (4.7%) had endoscopic evidence of BE
- 362 (1.3%) had IP, of whom 62 (17.1%) had both IP and BE ($p < 0.001$) [Table 1]
- Patients with BE alone, IP alone, and both BE and IP were older and had higher BMI than those without either finding ($p < 0.001$).
- Patients with IP and/or BE had less normal HREM than patients without any finding. Mean LES pressure was lower in patients with BE and/or IP when compared to those without either
- EpHI testing was less normal in patients with IP and/or BE. Mean AET was higher in patients with BE and/or IP than those without ($p < 0.001$) [Figure 1]
- On multivariate regression analysis, patients with only BE, only IP, and both IP and BE were all independently associated with increasing age and BMI, male sex, Caucasian race, Hispanic ethnicity, and current smoking

CONCLUSIONS

- BE was seen in 4.7% and IP in 1.3% of patients undergoing EGD. 17% of IP patients had BE
- Patients with BE alone, IP alone, and both IP and BE were found to be older, have higher BMI, lower LES residual pressure, and higher AET when compared to those without either endoscopic finding
- Factors such as male sex, BMI, Caucasian race, active smoking status were independently associated with BE alone, IP alone, and IP and BE findings
- Endoscopic testing and risk factor analysis in individuals with these risk factors should be performed with careful esophageal inspection for both BE and IP