INCIDENCE OF FOOD IMPACTION BASED UPON REGION AND SEASON IN THE UNITED STATES

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INTRODUCTION

- Food impactions frequently occur as result of underling functional or mechanical pathology such as rings, strictures, webs, malignancies, eosinophilic esophagitis (EoE), or dysmotility.
- The primary aim of this study was to evaluate seasonal and regional variation in the incidence of esophageal food bolus impaction.

METHODS

- Data were collected for patients admitted for esophageal food impaction from National Hospital Discharge Survey (NHDS) between 2001 and 2010 and National Hospital Ambulatory Medical Care Survey (NHAMCS) between 2011 and 2015.
- Demographics, region, and month of admission were collected. SPSS was used for chi-square testing at alpha of 0.05 to compare incidence of esophageal impaction based on region and season.
- Seasons were defined as follows: Winter (December to February), Spring (March to May), Summer (June to August), and Fall (September to November).
- Four regions were identified and included Northeast, Midwest, South, and West (Figure 1). Data was adjusted for distribution of US population.

RESULTS

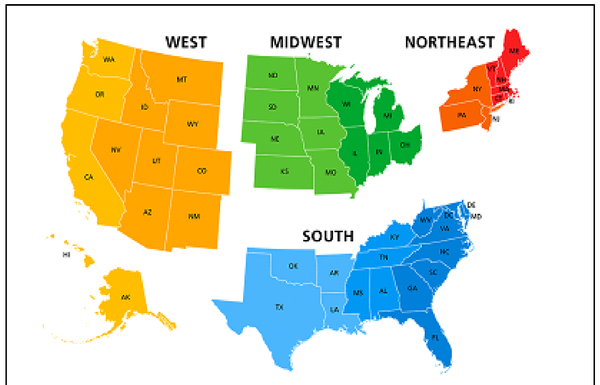

Figure 1: Distribution of States by Region

Variable		p-value
Age		<0.001
< 50 years	142	
50 years or older	460	
Sex		<0.001
Male	346	
Female	256	
Race		0.07
Caucasian	399	
African American	54	
Other	149	

Table 1: Demographics of patients with esophageal food impaction

Season	No. of Cases	% of Cases
Winter	131	21.8%
Spring	132	21.9%
Summer	180	29.9%
Fall	159	26.4%
Comparison between Seasons		**p-value**
Spring vs. Winter	21.9% vs. 21.8%	0.90
Summer vs. Winter	29.9% vs. 21.8%	<0.01
Fall vs. Winter	26.4% vs. 21.8%	0.1
Summer vs. Spring	29.9% vs. 21.9%	0.01
Summer vs. Fall	29.9% vs. 26.4%	0.28
Fall vs. Spring	26.4% vs. 21.9%	0.13

Table 2: Comparison of esophageal food impaction cases based on seasons

Region	No. of Cases	% of Cases
Northeast	201	33.4%
Midwest	145	24.1%
South	191	31.7%
West	65	10.8%
Comparison between Region		**p-value**
Northeast vs. Midwest	33.4% vs. 24.1%	<0.001
Northeast vs. South	33.4% vs. 31.7%	<0.001
Northeast vs. West	33.4% vs. 10.8%	<0.001
Midwest vs. South	24.1% vs. 31.7%	0.002
Midwest vs. West	24.1% vs. 10.8%	<0.001
South vs. West	31.7% vs. 10.8%	<0.001

Table 3: Comparison of esophageal food impaction cases based on region

DISCUSSION

- Food impactions occur for a wide variety of reasons with EoE being one of the most common cause of food impactions.
- Previous studies have documented seasonal variations of EoE, but none, known to date, have evaluated this finding in the United States.
- Interestingly, in our study, the Northeast did have significantly more cases compared to the South, West, and Midwest. Summer months had a high propensity for food impactions as well. This difference may be due to environmental factors and should be investigated further.