10-Year Epidemiological Trends of Eosinophilic Gastritis and Eosinophilic Gastroenteritis

Shah, Aun Raza[1]; Shah, Ishani[2]; Ali, Rubab[3]; Malik, Sarah[1]; Hewlett, Alexander Todd[1]

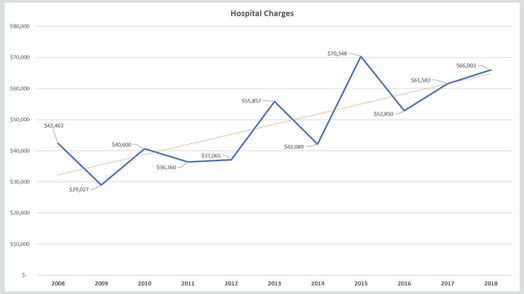
1. University of Nebraska Medical Center, Omaha, NE, United States. 2. Beth Israel Deaconess Medical Center, Boston, MA, United States. 3. Clarkson Family Medicine, Omaha, NE, United States.

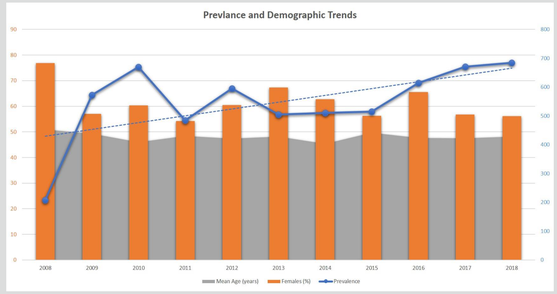
INTRODUCTION

- Eosinophilic gastritis (EG) and eosinophilic gastroenteritis (EGE) are rare entities
- Estimated prevalence of EG and EGE are 6.3/100,000 and 8.4/100,000 respectively in the general population
- Whilst EGE had the highest predominance in young children; EG was most prevalent from third through fifth decades of life
- In this study we sought to identify the epidemiological trends of EG and EGE in adults from a large US population-based sample.

METHODS

- We utilized the National Inpatient Sample (NIS) database
- Patients with a principal or secondary diagnosis of EG or EGE were identified from the years 2008 to 2018 using ICD-9 and ICD-10 codes
- Annual prevalence of EG and EGE was calculated as well as epidemiological and healthcare utilization trends
- Healthcare resource utilization measures included in the study were length of stay (LOS), hospital bed size, median household income, hospital region, primary payer and total hospitalization charges.





Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	p-value
Race (%)												**0.54**
White	74.35	75.64	70.49	75.25	71.55	77.89	68.82	70.71	58.97	67.44	69.12	
Black	6.83	9.04	16.31	5.2	8.62	7.37	12.9	14.14	17	13.18	8.82	
Hispanic	12.62	10.18	6.25	8.76	12.07	8.42	11.83	8.08	16.2	12.4	9.56	
Asian/Pacific islander	6.2	1.14	4.05	8.76	3.45	3.16	3.23	6.06	5.9	4.65	10.29	
Native American	0	2	0.65	1.02	1.72	0	0	0	0	0	1.47	
Other	0	1.9	2.15	1.01	2.59	3.16	3.23	1.01	1.71	2.33	0.74	
Primary Expected Payer (%)												**0.06**
Medicare	38.21	25.85	21.32	27.37	28.57	38	28.43	31.07	31.71	36.84	25.55	
Medicaid	14.74	6.66	15.94	10.87	10.08	7	14.71	20.39	15.45	18.8	17.52	
Private insurance	44.38	51.29	53.63	46.6	54.62	46	53.92	43.69	44.72	39.85	47.45	
Self pay	2.67	11.06	6.12	6.61	5.88	8	1.96	2.91	4.88	3.76	5.11	
No charge	0	0	0.78	1.16	0	1	0	0.97	0	0	0	
Other	0	5.02	2.22	7.38	0.84	0	0.98	0.97	3.25	0.76	4.38	
Hospital Region (%)												**0.01**
Northeast	25.85	26.83	22.47	13.79	29.41	25.74	12.75	19.42	21.15	20.16	15.33	
Midwest	29.85	22.86	15.13	26.51	12.61	19.8	32.35	23.3	30.89	21.64	25.55	
South	18.52	3848	46.56	30.54	36.13	35.64	35.29	38.83	28.46	26.87	30.66	
West	25.76	11.83	15.85	29.16	21.85	18.81	19.61	18.45	19.51	31.34	28.47	
Hospital Type (%)												**0.5**
Rural	16.03	12.59	12.47	12.55	15.13	9.9	19.61	14.56	17.07	17.16	23.36	
Non-teaching urban	27.52	20.18	24.04	17.37	22.69	21.78	19.61	20.39	27.64	25.37	28.47	
Teaching urban	56.45	67.23	63.49	70.08	62.18	68.32	60.78	65.05	55.28	57.46	48.18	
Median Household Income National Quartile for Patient ZIP Code (%)												**0.19**
$1-24,999	14.21	19.2	19.61	18.69	15.52	20.41	28.71	27.72	20.66	23.26	23.7	
$25,000-34,999	30.39	20.54	25.02	21.06	20.69	17.35	26.73	28.71	28.93	18.6	22.96	
$35,000-44,999	14.71	33.55	26.57	35.14	22.41	27.55	19.8	18.81	26.45	27.91	27.41	
45,000 or more	40.69	26.71	28.8	25.11	41.38	34.69	24.75	24.76	23.97	30.23	25.93	

CONCLUSION

- The prevalence of EG and EGE remains rare in the US but it continues to steadily rise
- This is associated with increasing healthcare utilization costs
- The prevalence is significantly increasing in the South and West regions particularly

RESULTS

- A total of 6,027 patients with a diagnosis of EG or EGE were identified
- The unweighted prevalence of EG/EGE during this 10-year period was approximately 8.61/100,000 patients
- There was an increase in the rates of diagnosis annually from 207 to 685 patients between the years 2008 to 2018
- There was a female preponderance in the population which did not significantly change over the study period [p 0.35]
- The mean age was 47.8 years [SEM: 0.6 years] and there was no significant variation in age distribution over 10 years [p 0.67]
- There was no significant change in trends for hospital type, median household income or patient race
- There was an increasing trend seen in private insurance (44% to 48%) and self-pay (2.7% to 5.1%) as primary payer, but this did not reach statistical significance [p 0.06]
- There was a significant increase in hospital charges from 2008 to 2018 [p 0.04]
- The rates of diagnosis increased significantly from 2008 to 2018 in the South and West hospital regions when compared to other regions [p 0.01]