

## The retrospective study of incidence of eosinophilic gastroenteritis among tribal population of Wayanad

Satish Gurupadappa Arakeri<sup>1\*</sup>, Geethvasu P<sup>2</sup>

<sup>1</sup>Assistant Professor, <sup>2</sup>Professor & HOD, Dept. of Pathology, DMWIMS, Kerala

**\*Corresponding Author:**

Email: drsatisharakeri@gmail.com

### Abstract

**Introduction:** The condition of eosinophilic gastroenteritis is the rare inflammatory lesion of GI tract. It is characterized by increase in number of eosinophils in lamina propria.

**Materials and Methods:** The present study is a retrospective study. Criteria for diagnosis of eosinophilic gastroenteritis is as follows: > 30 eosinophils/HPF, Eosinophilic cryptitis, Eosinophilic crypt abscess.

**Results and Discussion:** Out of 447 cases, 85 cases show features of eosinophilic gastroenteritis i.e. 19% of cases show features of eosinophilic gastroenteritis. 59 cases are males and 26 cases are females. The most common part of GI tract involved is colon followed by stomach, ileum and duodenum.

**Conclusion:** The incidence of eosinophilic gastroenteritis is more common among males of 5<sup>th</sup>-6<sup>th</sup> decades with predominant involvement of colon.

**Keywords:** Eosinophilic gastroenteritis, Tribal, Colon

### Introduction

The condition of eosinophilic gastroenteritis is the rare inflammatory lesion of GI tract. It is characterized by increase in number of eosinophils in lamina propria. The site includes stomach, duodenum, ileum and colon. The causes for eosinophilic gastroenteritis are Helicobacter gastritis, Churg-Strauss syndrome, Loffler syndrome, Crohn's disease, parasitic infestation, food allergy, connective tissue disorder. When all known causes of eosinophilic gastroenteritis are ruled out, the diagnosis of idiopathic eosinophilic gastroenteritis may be considered.<sup>(1,2,3)</sup>

The present study is done to know the incidence of eosinophilic gastroenteritis among the tribal population of Wayanad, Kerala state.

### Materials and Methods

The present study is a retrospective study. The study included all cases visited to DMWIMS medical college, Wayand, Kerala, a tertiary center, between 2011-2016 who underwent upper GI endoscopy and colonoscopy. The study population includes mainly tribal population. Criteria for diagnosis of eosinophilic gastroenteritis is as follows:

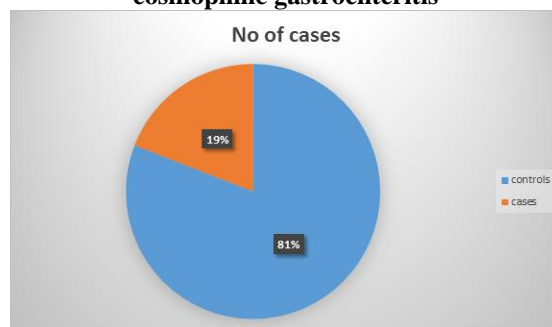
- > 30 eosinophils/HPF
- Eosinophilic cryptitis
- Eosinophilic crypt abscess

### Results

The present retrospective study includes all the upper GI endoscopy and colonoscopy biopsies taken from 2011 to 2016. Total 447 biopsies have been taken.

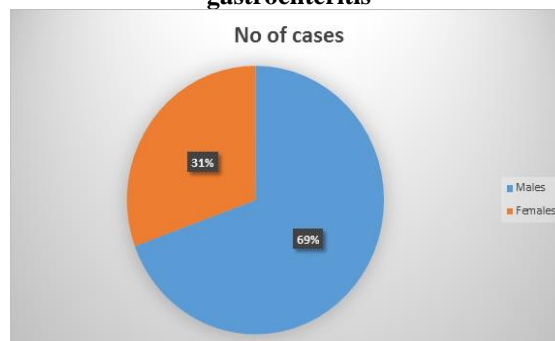
Out of 447 cases, 85 cases show features of eosinophilic gastroenteritis i.e. 19% of cases show features of eosinophilic gastroenteritis.

**Graph 1: The graph represents the incidence of eosinophilic gastroenteritis**



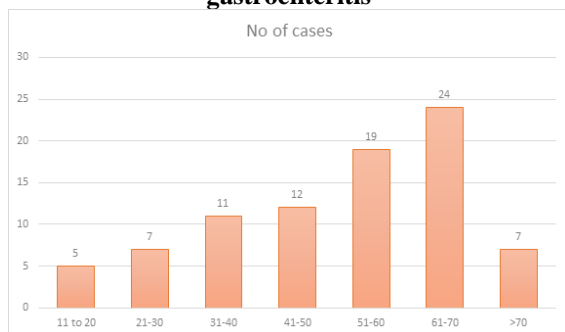
Out of 85 cases of eosinophilic gastroenteritis, 59 cases are males and 26 cases are females.

**Graph 2: The graph represents the gender wise distribution of incidence of eosinophilic gastroenteritis**



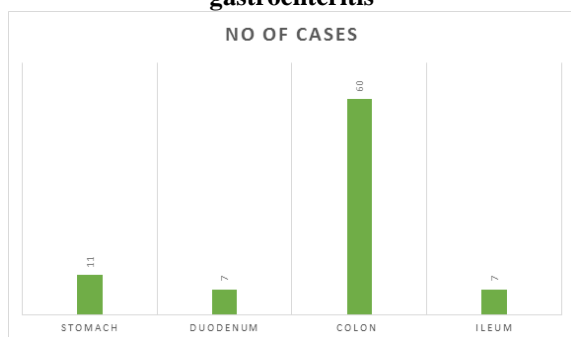
Out of 85 cases, the most common age group involved is 6<sup>th</sup> decade.

**Graph 3: The graph represents the age wise distribution of incidence of eosinophilic gastroenteritis**



Out of 85 cases, the most common part of GI tract involved is colon followed by stomach, ileum and duodenum.

**Graph 4: The graph represents the site wise distribution of incidence of eosinophilic gastroenteritis**



## Discussion

In the present study, total 447 cases are involved who have undergone either upper GI endoscopy or colonoscopy. Out of 447 cases, 85 cases (19%) shows features of eosinophilic gastroenteritis. Criteria for diagnosis of eosinophilic gastroenteritis is as follows:

- > 30 eosinophils/HPF
- Eosinophilic cryptitis
- Eosinophilic crypt abscess

So, 1 out of 5 cases underwent scopy shows features of eosinophilic gastroenteritis. The main reason believed to be the topographical location and vegetation. The study is conducted in the area called Wayanad, Kerala, India. This area is high altitude area with heavy rainfall and full of vegetation. The pollen of flower is supposed to be the cause of many allergic condition.

Out of 85 cases, it is observed that 69% cases are seen among males and 31% cases are among females. This finding is well correlated with other studies conducted by Mori et al,<sup>(4)</sup> Triantafillidis et al,<sup>(10)</sup> Lwin et al<sup>(11)</sup>

Out of 85 cases, it is observed that more cases are seen among age group of 5<sup>th</sup>-6<sup>th</sup> decade. This finding is

well correlated with other studies conducted by Ekunno et al,<sup>(5)</sup> Ayub Met al.<sup>(12)</sup>

Out of 85 cases, it is seen that colon is most commonly involved by eosinophilic gastroenteritis with around 71% of cases followed by stomach (13%), Duodenum (8%) and ileum (8%). This finding is well correlated with other studies conducted by Lowichik et al,<sup>(6)</sup> DeBrosse et al<sup>7</sup>, Polydorides AD et al,<sup>(8)</sup> Collins,<sup>(9)</sup> Chaudary et al,<sup>(13)</sup> Copeland BH et al,<sup>(14)</sup> Yan BM et al.<sup>(15)</sup>

## Conclusion

The incidence of eosinophilic gastroenteritis is more common among males of 5<sup>th</sup>-6<sup>th</sup> decades with predominant involvement of colon. This study still continues with correlation of peripheral eosinophilia and correlation with etiological factors like drug intake, allergic conditions etc. as well as clinical presentation.

## References

1. Sternberg. Diagnostic Surgical Pathology. 6<sup>th</sup> edition. Vol II. China: Wolters Kluwer;2010.p 1418,1454.
2. Rosai J. Surgical pathology. 10th edition. Vol 1. Missouri: Elsevier;2012. P 619,685, 744.
3. Robbins and Cotran. Pathologic basis of disease. 8<sup>th</sup> edition. Pennsylvania: Elsevier;2010. P 780.
4. Mori A, Enweluzo C, Grier D, Badireddy M. Eosinophilic gastroenteritis: Review of a rare and treatable disease of the gastrointestinal tract. Case Rep Gastroenterol.2013 May-Aug;7(2):293-298.
5. Ekunno N, Munsayac K, Pelletier A, Wilkins T. Eosinophilic gastroenteritis presenting with severe anemia and near syncope. J Am Board fam Med. Non-Dec 2012;Vol 25(6):913-918.
6. Lowichik A, Weinberg AG. A quantitative evaluation of mucosal eosinophils in the pediatric gastrointestinal tract. Modern Pathology 1996 Feb;9(2):110-4.
7. De Brosse CW, Case JW, Putnam PE, Collins MH, Rothenberg ME. Quantity and distribution of eosinophils in the gastrointestinal tract of children. Pediatr Dev Pathol 2006 May-Jun;9(3):210-8.
8. Polydorides AD, Banner BF, Hannaway PJ, Yantiss RK. Evaluation of site specific and seasonal variation in colonic mucosal eosinophils. Hum Pathol 2008 Jun;39(6):832-6.
9. Collins MH. Histopathology associated with eosinophilic gastrointestinal diseases. Immunol Allergy Clin North Am 2009 Feb;29(1):109-17.
10. Triantafillidis JK, Aikaterini P, Cherakakis P, Maria S. Eosinophilic gastroenteritis: Current aspects on etiology, pathogenesis, diagnosis and treatment. Annals of gastroenterology 2002;15(2):106-115.
11. Lwin T, Melton SD, Genta RM. Eosinophilic gastritis: Histopathological characterization and quantification of the normal gastric eosinophil content. Modern pathology,2011;24:556-563.
12. Ayyub M, Almenawi L, mogharbel MH. Eosinophilic gastritis; An unusual and overlooked cause of chronic abdominal pain. J Ayub Med Coll Abbottabad 2007;19:127-130.
13. Chaudhary R, Shrivastava RK, Mukhopadhyay HG et al. Eosinophilic gastritis- An unusual cause of gastric outlet obstruction. Indian J Gastroenterol 2001;20:110.
14. Copeland BH, Aramide OO, Wehbe SA et al. Eosinophilia in a patient with cyclical vomiting: a case report. Clin Mol Allergy. 2004;2:7.

15. Yan BM, Shaffer EA. Primary eosinophilic disorders of the gastrointestinal tract. *Gut* 2009;58:721-732.