

IASR J. Med. Pharm. Sci.
ISSN: 2582-9343
Website: https://ijmps.com/
Open Access Journal
Country: India

IASR Journal of
Medical and Pharmaceutical Science

ORIGINAL ARTICLE OPEN ACCESS

A Study on Gastrointestinal Manifestations in Patients With Hypereosinophilia and Their Correlation With Histopathological Findings

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Received: 06 Oct 2026
Accepted: 25 Oct 2026
Published: 21 Nov 2026

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ABSTRACT

Background: Gastrointestinal (GI) involvement in patients with hypereosinophilia presents with diverse clinical manifestations and variable endoscopic and histopathological findings. The patchy distribution of tissue eosinophilic infiltration may make diagnosis challenging, and the relationship between peripheral blood eosinophil counts and GI tissue involvement remains uncertain.

Aim: To evaluate the clinical spectrum of gastrointestinal manifestations in patients with peripheral hypereosinophilia, characterize endoscopic and histopathological findings, and assess the correlation between absolute eosinophil count (AEC) and tissue eosinophilic infiltration.

Materials and Methods: This single-centre, cross-sectional analytical study was conducted from October 2022 to September 2024 at the Department of Medical Gastroenterology and Hepato-Biliary Sciences, Institute of Medical Sciences and SUM Hospital, Bhubaneswar. A total of 100 patients aged 18 years or older, with AEC >1,500 cells/µL and gastrointestinal symptoms, were included. Clinical details were recorded, and upper gastrointestinal endoscopy and/or colonoscopy with segmental biopsies were performed according to clinical presentation. Histopathological findings were evaluated, and peripheral AEC was compared between patients with and without eosinophilic involvement of individual GI segments.

Results: The median age was 52 years (range: 18–79), with female predominance (56%). Abdominal pain (80%) was the most common symptom, followed by vomiting (59%), retrosternal burning (50%) and dysphagia (31%). Upper GI endoscopy predominantly revealed antral erosions (77%), reflux oesophagitis (59%) and erosive gastritis (50%). Colonoscopy commonly demonstrated internal haemorrhoids (80%), terminal ileal erosions (31%) and colonic ulcers (26%). Upper GI histopathology identified eosinophilic gastritis in 20%, eosinophilic duodenitis in 7% and eosinophilic oesophagitis in 5% of patients. Colonoscopic biopsies revealed eosinophilic proctocolitis in 12%. Normal histology was observed in 50% of upper GI biopsies and 61% of colonic biopsies. The median AEC was 2,214 cells/µL (IQR: 1,772–2,634.5). No statistically significant differences in AEC were observed between patients with and without eosinophilic oesophagitis, gastritis, duodenitis or proctocolitis ($p > 0.05$).

Conclusion: Gastrointestinal manifestations in patients with hypereosinophilia are diverse, involving multiple GI segments. Peripheral AEC alone does not reliably predict tissue eosinophilic infiltration. The substantial proportion of normal biopsies highlights the patchy nature of tissue involvement and the importance of adequate multisite sampling. An integrated approach combining clinical assessment, endoscopic evaluation and histopathological examination is essential for accurate diagnosis.

Key Words: *Hypereosinophilia; Eosinophilic gastrointestinal disorders; Gastrointestinal manifestations; Absolute eosinophil count; Endoscopy; Histopathology*

INTRODUCTION

Eosinophils are a type of white blood cell that play a crucial role in immune regulation and surveillance, particularly in the gastrointestinal (GI) mucosa. Normally, they are present in the stomach, small intestine, and colon but absent in the oesophagus[1].They contribute to protection against parasitic infections, bacteria and other pathogens through the release of cytotoxic granules and recruitment of other immune cells. However increased eosinophilic infiltration of GI tissues may indicate pathological conditions such as eosinophilic gastroenteritis, allergic colitis, and eosinophilic oesophagitis[2]. Collectively, these disorders are classified as eosinophilic gastrointestinal disorders (EGIDs), characterized by chronic inflammation due to eosinophil accumulation in GI tissues leading to tissue damage, structural changes, and significant morbidity, adversely affecting patients' quality of life[3].

Gastrointestinal eosinophilia is associated with several conditions, including parasitic infections, IgE-mediated food allergies, hypereosinophilic syndrome (HES), inflammatory bowel disease, gastroesophageal reflux disease and primary eosinophilic gastrointestinal disorders (EGIDs)[4]. Primary EGIDs comprise eosinophilic oesophagitis (EoE), eosinophilic gastritis (EG), eosinophilic gastroenteritis (EGE) and eosinophilic colitis (EC), characterized by pathological eosinophilic infiltration of the respective GI segments. The estimated prevalence of eosinophilic gastritis, gastroenteritis and colitis ranges from 2.1–5.1 per 100,000, whereas EoE has an estimated prevalence of 10–57 per 100,000[2].

Hypereosinophilic syndrome (HES) represents a rare heterogeneous group of disorders characterized by peripheral blood eosinophilia exceeding 1,500 cells/mm³, associated with eosinophil-mediated organ or tissue damage. The relationship between hypereosinophilia and GI manifestations is complex. A multidisciplinary consensus statement published in 2005 proposed the classification of patients with single-organ eosinophilic disorders, such as EGIDs, accompanied by hypereosinophilia as a variant of HES, termed "overlap HES"[4]. Gastrointestinal involvement may present with abdominal pain, nausea, vomiting, diarrhoea and weight loss, with clinical manifestations varying according to the extent and severity of tissue involvement[5].

The clinical presentation of EGIDs depends on the anatomical site and extent of eosinophilic infiltration. Eosinophilic Oesophagitis commonly presents with dysphagia, food impaction and chest pain, often persisting despite acid-suppressive therapy[3]. Eosinophilic Gastroenteritis involves eosinophilic infiltration of the stomach and small intestine, presenting with abdominal pain, diarrhoea, weight loss and malabsorption[1]. Eosinophilic Colitis is more frequently observed in infants and young children and may manifest as bloody stools, diarrhoea and abdominal pain. It is commonly associated with hypersensitivity to dietary proteins, particularly cow's milk protein, although other food allergens may also be implicated[2]. Diagnosis of EGIDs involves clinical assessment, endoscopic evaluation, and histopathological examination of biopsies obtained from affected GI segments. Long-term follow-up is important to identify complications such as oesophageal strictures and intestinal malabsorption. Advances in understanding the underlying immunological mechanisms have facilitated the development of newer diagnostic and therapeutic approaches, although long-term management remains challenging[2].

The rarity of eosinophilic gastrointestinal disorders and the limited availability of studies from India highlight the need for a better understanding of the association between hypereosinophilia and gastrointestinal manifestations. Most existing studies have been conducted in Western populations, and their findings may not be directly applicable to Indian patients. Therefore, this study aims to evaluate gastrointestinal manifestations in patients with hypereosinophilia and correlate peripheral blood eosinophil counts with histopathological findings from upper GI endoscopic and colonoscopic biopsies. Understanding this relationship may help improve diagnostic accuracy, identify gastrointestinal involvement early, and optimize treatment outcomes.

AIM:

My study aims to evaluate the clinical spectrum of gastrointestinal involvement in patients with hypereosinophilia and correlate peripheral blood absolute eosinophil counts with gastrointestinal tissue eosinophilic infiltration on histopathological examination.

OBJECTIVES:

Primary Objective:To assess the gastrointestinal manifestations in patients with peripheral hypereosinophilia.

Secondary Objective: To characterize upper gastrointestinal endoscopic and colonoscopic findings, assess histopathological evidence of gastrointestinal eosinophilic infiltration, and determine its correlation with peripheral blood absolute eosinophil counts in patients with hypereosinophilia.

MATERIAL &METHODS:

This was a single-centre, cross-sectional analytical study conducted from October 2022 to September 2024 at the Department of Medical Gastroenterology and Hepato-Biliary Sciences, Institute of Medical Sciences and SUM Hospital, Bhubaneswar. The study included 100 inpatients and outpatients presenting with hypereosinophilia and GI manifestations.

Convenience sampling method was employed for patient recruitment.
This study was conducted after obtaining approval from the Institutional Ethics Committee, and all procedures were performed in accordance with the Declaration of Helsinki.

Patients aged 18 years and above with an absolute eosinophil count (AEC) greater than 1,500 cells/µL, presenting with gastrointestinal manifestations such as dysphagia, abdominal pain, nausea, vomiting, diarrhoea or loose stools were included in the study.

Patients aged below 18 years, those with an AEC ≤1,500 cells/µL, previously diagnosed gastrointestinal conditions such as inflammatory bowel disease (IBD), celiac disease or gastrointestinal malignancy, and patients with a history of gastrointestinal surgery were excluded.

Demographic details, including age, gender, occupation and contact information, will be collected from all participants. A detailed clinical history will be obtained, including chief complaints, presenting symptoms, past history of asthma, allergic rhinitis, food or drug allergies, malignancy and inflammatory bowel disease (IBD), along with relevant family and treatment history. A thorough physical examination will be performed, including assessment of vital signs (blood pressure, pulse rate and temperature) and systemic examination, particularly focusing on the gastrointestinal and other relevant systems. Upper gastrointestinal endoscopy (UGIE) and/or colonoscopy will be performed in all patients depending on their presenting clinical features, with segmental biopsies obtained during the procedures. The biopsy specimens will undergo histopathological evaluation for eosinophil counts and associated features, including eosinophilic degranulation, cryptitis and crypt abscesses. Tissue eosinophilia will be assessed based on segment-specific eosinophil counts per high-power field (HPF), with the following thresholds: oesophagus >15 eos/HPF, stomach ≥30 eos/HPF, small intestine ≥50 eos/HPF and colon ≥60 eos/HPF.

Statistical Analysis

Data was entered into Microsoft Excel. Statistical analysis was carried out using social package for social sciences version 23.0 for Windows (SPSS Inc., Chicago, IL, USA). Normality of data distribution was assessed with Kolmogorov-Smirnov or Shapiro-Wilk test. Continuous data were expressed as mean and standard deviation(SD) or median and interquartile range(IQR) based on the normality of distribution. Groups were compared using Student's t-test or MannWhitney test. Categorical variables were expressed as frequency and percentage and compared using X2-test or Fisher's exact test. All tests were two-tailed and the level of significance was set at p value less than 0.05.

RESULTS:

A total of 100 patients were included in this study. The age distribution of study participants showed that the largest proportion belonged to the 60–69 years age group (20%), followed by the 50–59 and 40–49 years groups (19% each). Participants aged 70–79 years constituted 14%, while those aged 30–39 and 20–29 years accounted for 13% and 11%, respectively. The youngest group, below 20 years, represented 4% of the study population. The median age was 52 years, with an age range of 18–79 years. 56%of the study population were females, while 44% were males.

Abdominal pain was the most common presenting symptom, reported by 80% of the 100 study participants, followed by vomiting (59%) and retrosternal burning (50%). Difficulty in swallowing was observed in 31% of participants. Other clinical manifestations included chronic diarrhoea and abdominal distension (26% each), bloating (22%) and foreign body sensation in the throat (20%).

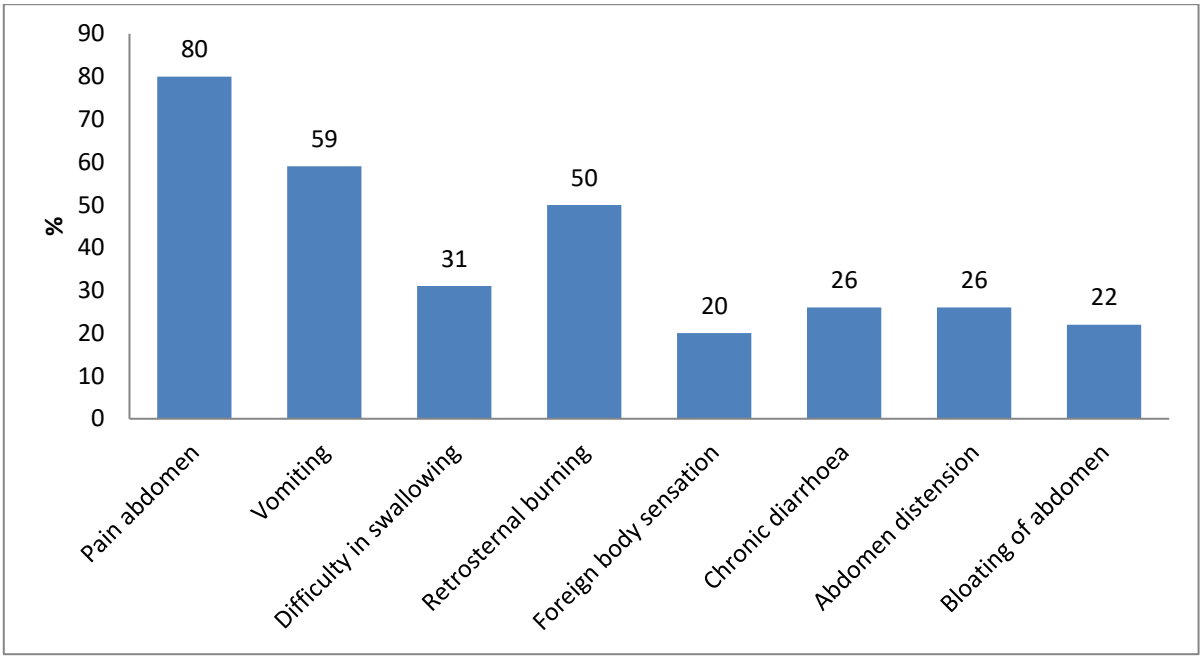


Figure 1:Representation of clinical features

Upper gastrointestinal (GI) endoscopy revealed antral erosions as the most common finding, observed in 77% of participants, followed by reflux oesophagitis (59%) and erosive gastritis (50%). Gastric ulcers were present in 31% of cases, while duodenal ulcers were observed in 23%. Hiatus hernia was identified in 20% of participants. Less frequent findings included deformed duodenal bulb (D1) complex and duodenal scars, each accounting for 7%.

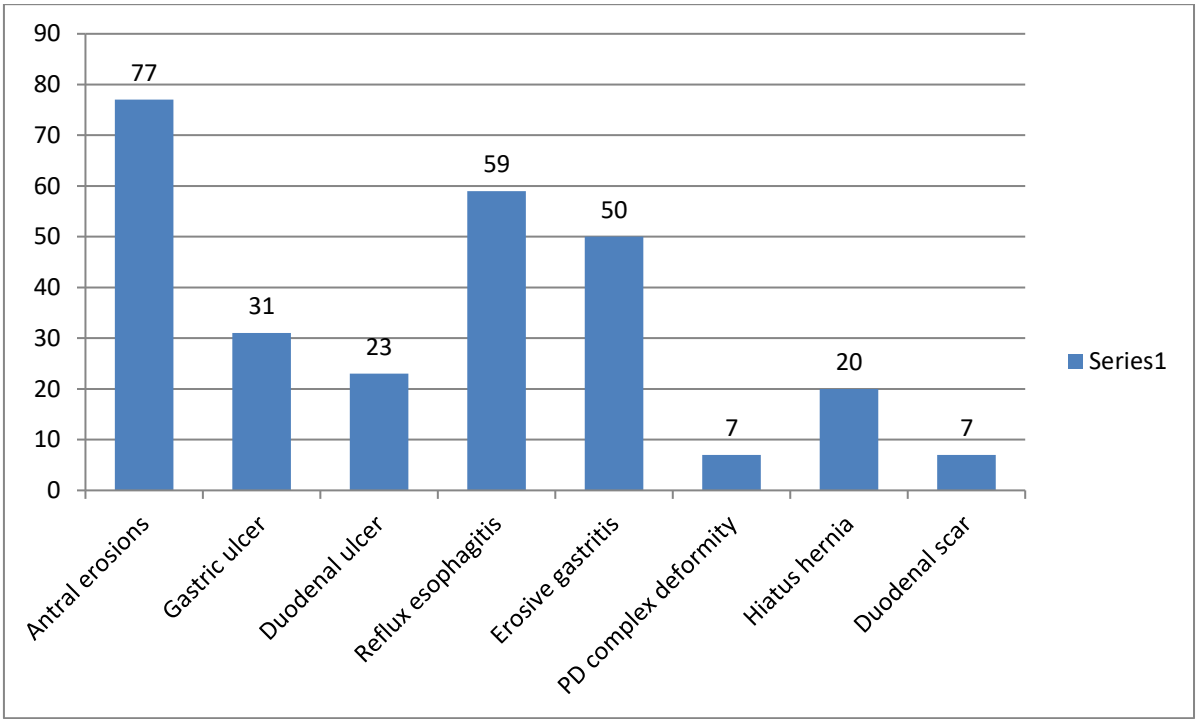


Figure 2: Representation of Upper GI endoscopy findings

Colonoscopy revealed internal haemorrhoids as the most frequent abnormality, observed in 80% of participants. Terminal ileal and colonic erosions were each identified in 31% of cases, while terminal ileal ulcers and colonic ulcers were observed in 31% and 26%, respectively. Other findings included colonic polyps (7%) and diverticuli (5%).

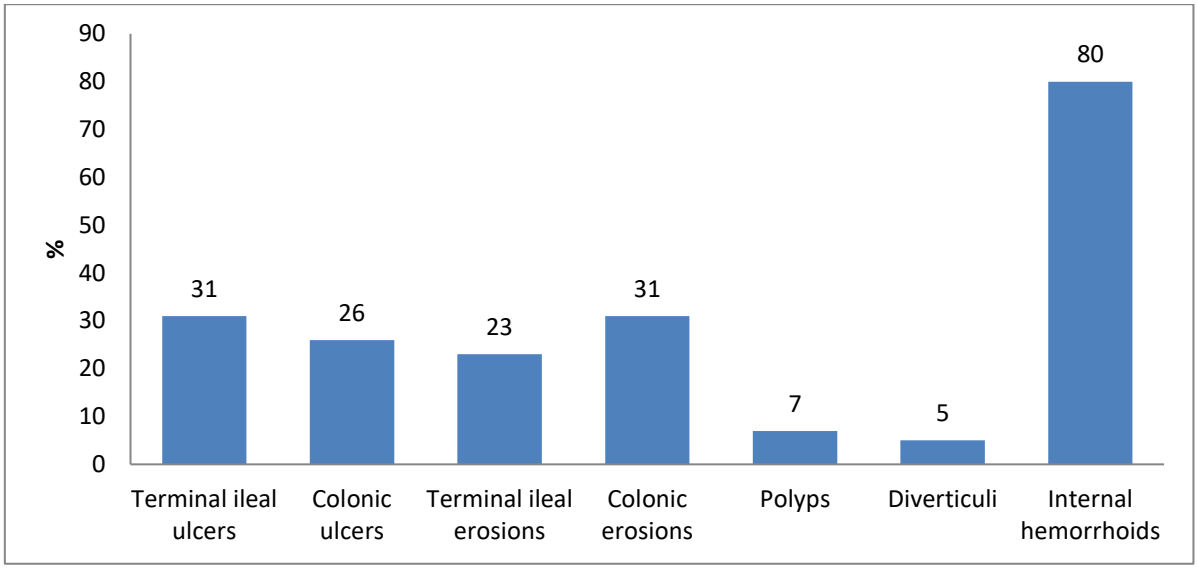


Figure 3: Representation of Colonoscopy findings

Histopathological examination of upper gastrointestinal endoscopic biopsies revealed normal histology in 50% of participants. Non-specific gastroduodenitis was observed in 31%, while chronic active gastritis was identified in 26%. Less frequent findings included lymphangiectasia (3%), lymphoplasmacytic infiltration (1%) and features suggestive of coeliac disease (1%). Among the eosinophilic disorders, eosinophilic gastritis was the most common (20%), followed by eosinophilic duodenitis (7%) and eosinophilic oesophagitis (5%).

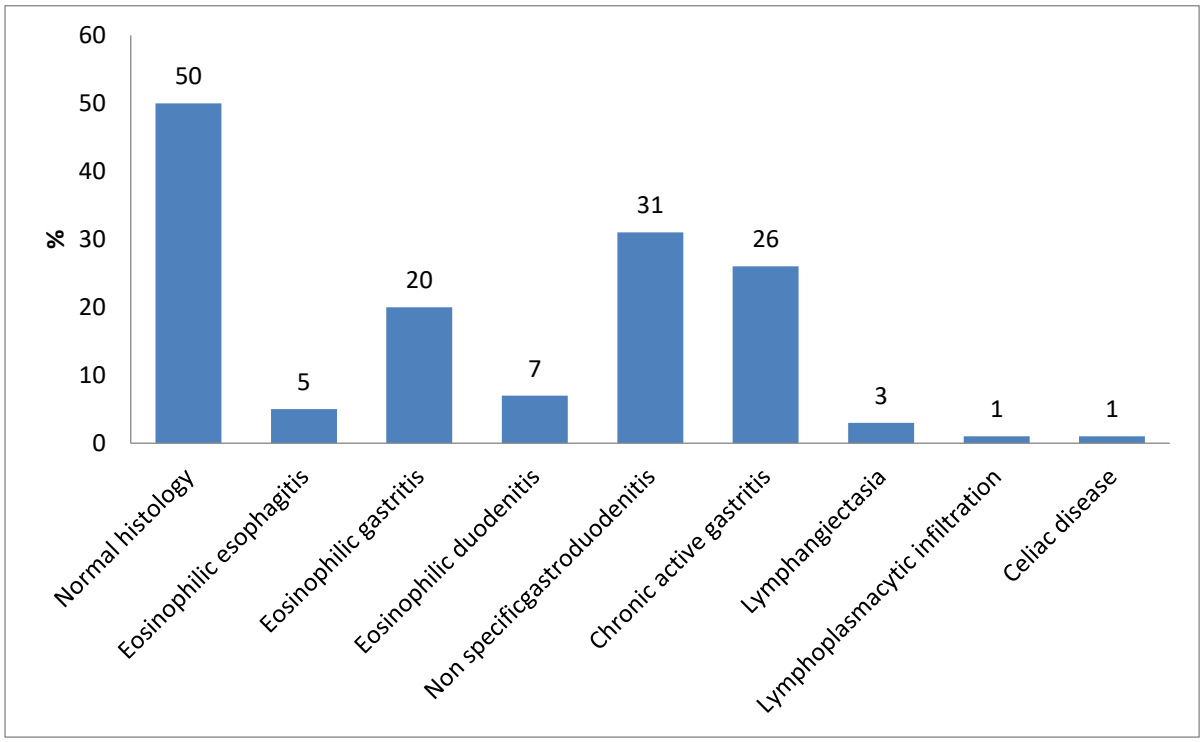


Figure 4 :Representation of UGIE -Histopathology findings

The histopathological findings from colonoscopy reveal that 61% of participants had normal results.Non-specificileocolitiswas identifiedin 11%, while eosinophilic proctocolitis was found in 12%.Chronic ileocolitis was present in 16% of the cases.

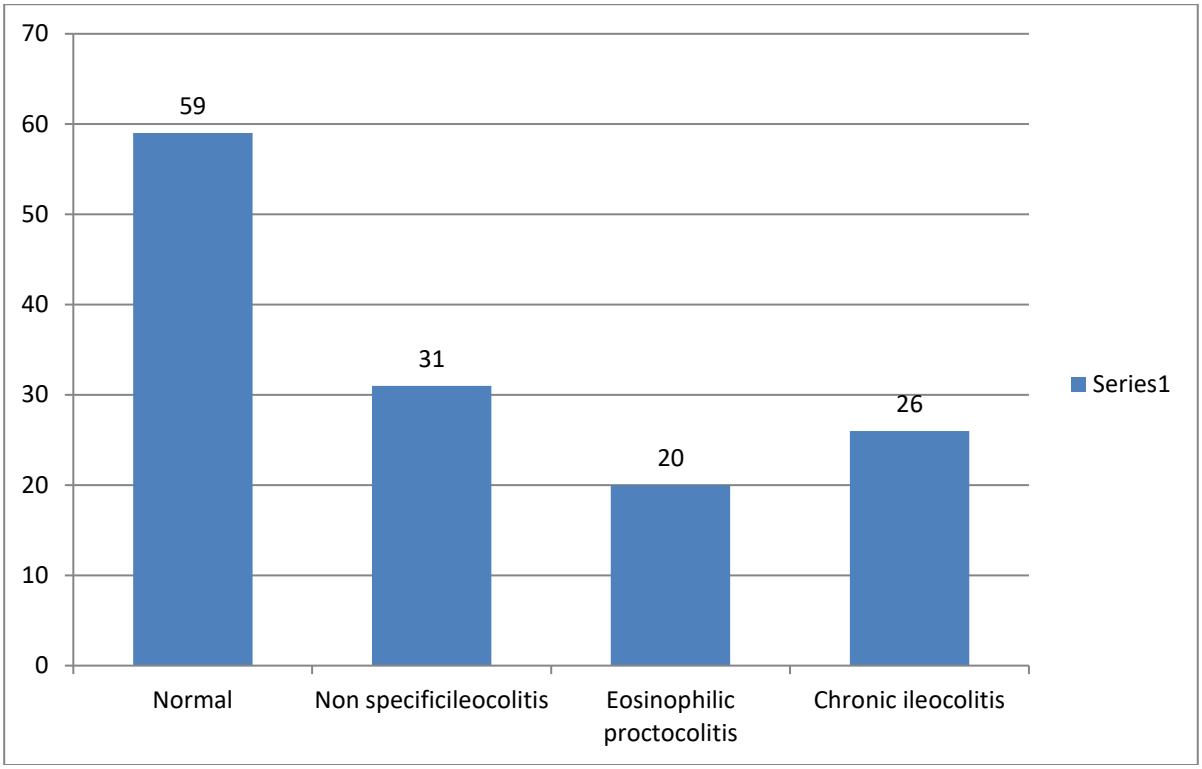


Figure 5: Representation of Colonoscopy-Histopathology findings

The white blood cell (WBC) count in the study had a median of 12,308.2, with an interquartile range (IQR) of 8,710 to 12,900.

The absolute eosinophil count (AEC) in the study had a median of 2,214, with an interquartile range (IQR) of 1,772 to 2 ,634.5.

Table 1: Descriptive statistics for AEC

AEC	Median	IQR
	2214	(1772-2634.5)

The median absolute eosinophil count (AEC) among participants with eosinophilic oesophagitis was 1,772 cells/μL (IQR: 1,626–2,671), compared with 2,207 cells/μL (IQR: 1,786–2,630) among those without eosinophilic oesophagitis. The difference between the two groups was not statistically significant (Mann–Whitney U = 197, p = 0.522).

Table 2: Comparison of AEC based on Eosinophilic esophagitis

Eosinophilic esophagitis	Median	IQR	U value	P value
Present	1772.0	(1626-2671)	197	0.522
Absent	2207.0	(1786-2635)		

The median absolute eosinophil count (AEC) among participants with eosinophilic gastritis was 2,246 cells/μL (IQR: 1,741.3–2,697), compared with 2,172 cells/μL (IQR: 1,775.5–2,611.3) among those without eosinophilic gastritis. The difference between the two groups was not statistically significant (Mann–Whitney U = 738, p = 0.593).

Table 3: Comparison of AEC based on Eosinophilic gastritis

Eosinophilic gastritis	Median	IQR	U value	P value
Present	2246.0	(1741.3-2697)	738	0.593
Absent	2172.0	(1775.5-2611.3)		

The median absolute eosinophil count (AEC) among participants with eosinophilic duodenitis was 2,256 cells/μL (IQR: 1,661–2,638), compared with 2,186 cells/μL (IQR: 1,779–2,634) among those without eosinophilic duodenitis. The difference between the two groups was not statistically significant (Mann–Whitney U = 317, p = 0.909).

Table 4: Comparison of AEC based on Eosinophilic duodenitis

Eosinophilic duodenitis	Median	IQR	U value	P value
Present	2256.0	(1661-2638)	317	0.909
Absent	2186.0	(1779-2634)		

The median absolute eosinophil count (AEC) among participants with eosinophilic proctocolitis was 2,246 cells/µL (IQR: 1,741.3–2,697), compared with 2,172 cells/µL (IQR: 1,775.5–2,611) among those without eosinophilic proctocolitis. The difference between the two groups was not statistically significant (Mann–Whitney U = 738, p = 0.593).

Table 5: Comparison of AEC based on Eosinophilic proctocolitis

Eosinophilic proctocolitis	Median	IQR	U value	P value
Present	2246.0	(1741.3-2697)	738	0.593
Absent	2172.0	(1775.5-2611)		

DISCUSSION:

Gastrointestinal (GI) manifestations in patients with hypereosinophilia are diverse and often challenging to diagnose because of variable clinical presentations and the patchy distribution of eosinophilic infiltration. Hypereosinophilia, characterized by an increased eosinophil count in peripheral blood or tissues, is associated with several conditions, including eosinophilic gastrointestinal diseases (EGIDs) and hypereosinophilic syndrome (HES). GI involvement may present with a broad spectrum of symptoms, including abdominal pain, vomiting, dysphagia and diarrhoea. Correlating clinical manifestations with endoscopic and histopathological findings is essential for accurate diagnosis and appropriate management.

The present study aimed to evaluate the spectrum of GI manifestations in patients with hypereosinophilia and characterize the findings on upper gastrointestinal endoscopy (UGIE), colonoscopy and histopathological examination. By comparing our findings with existing literature, we sought to provide further insight into the clinical, endoscopic and pathological characteristics of GI involvement in these patients, thereby contributing to a better understanding of its diagnostic evaluation and management.

Demographic Characteristics:

Our study, revealed a predominance of EGIDs in older adults with majority of patients belonging to the 60–69-year age group (20%), followed by the 40–49 and 50–59-year groups (19% each). The median age was 52 years (range: 18–79), with a slight female predominance (56%). These findings are consistent with Kuang et al. (2020)[6], who reported that HES patients with GI involvement were predominantly older than 50 years. The higher prevalence in older adults may be associated with age-related immunological changes, cumulative environmental and allergen exposures, and delayed diagnosis, as these rare disorders often remain unrecognized until symptoms become more prominent later in life.

The slight female predominance in our study is consistent with Hurrell et al. (2011)[7], who reported similar gender distribution in eosinophilic colitis and other eosinophilic GI disorders. Hormonal, particularly oestrogen-mediated, and genetic factors may influence immune responses and eosinophilic activity, potentially contributing to female susceptibility. Further research is needed to explore these gender differences and their underlying mechanisms.

Clinical Features:

The clinical manifestations were diverse, with abdominal pain being the most common symptom (80%), followed by vomiting (59%), retrosternal burning (50%) and dysphagia (31%). Chronic diarrhoea and abdominal distension were each reported in 26% of patients, while 22% experienced bloating.

The high prevalence of abdominal pain in our cohort is consistent with Alnaseri and Aljebreeni (2007) [8], who identified it as the predominant symptom in eosinophilic gastroenteritis. Similarly, Kuang et al. (2020) [6] reported GI symptoms in 85% of HES patients, with abdominal pain and vomiting being the most common. Eosinophilic infiltration of the GI mucosa may cause inflammation, oedema and tissue damage, contributing to visceral hypersensitivity and pain.

The high prevalence of vomiting, retrosternal burning and dysphagia suggests substantial oesophageal involvement. These symptoms are characteristic of eosinophilic oesophagitis (EoE), which is associated with oesophageal eosinophilic infiltration, inflammation, fibrosis and narrowing. Zuo and Rothenberg (2007)[9] similarly reported frequent dysphagia and retrosternal discomfort in EoE patients. The coexistence of oesophageal symptoms and abdominal pain in our cohort suggests possible involvement of multiple GI sites.

Chronic diarrhoea and abdominal distension, reported by a smaller proportion of patients in our cohort, suggest possible small intestinal and colonic involvement. These manifestations are consistent with eosinophilic gastroenteritis and eosinophilic colitis, in which symptoms vary according to the affected GI segment. Gastric and small intestinal infiltration

may cause vomiting, diarrhoea and malabsorption, whereas colonic involvement commonly presents with abdominal pain, diarrhoea and bloating[10].

Upper GI Endoscopy Findings:
Upper gastrointestinal endoscopy (UGIE), performed in all patients, revealed antral erosions as the most common abnormality (77%), followed by reflux oesophagitis (59%), erosive gastritis (50%), gastric ulcers (31%), duodenal ulcers (23%) and hiatus hernia (20%). The frequent occurrence of gastric erosions and gastritis suggests substantial mucosal involvement. Similar findings were reported by Zuo and Rothenberg (2007), who observed frequent gastric erosions and reflux oesophagitis[9], and Zhang et al. (2011), who found gastric and duodenal erosions in over 60% of patients with eosinophilic gastroenteritis[10]. Eosinophilic infiltration can cause chronic mucosal inflammation, disrupt the epithelial barrier and predispose to erosions and ulceration.

The high prevalence of reflux oesophagitis may reflect oesophageal eosinophilic inflammation, which can impair epithelial integrity, contribute to fibrosis, strictures and dysmotility, and increase susceptibility to acid-related injury, producing GERD-like symptoms[12]. Furthermore, gastric and duodenal ulcers, reported in 31% and 23% of our patients, respectively, may indicate more extensive mucosal involvement. Zhang et al. (2011) similarly described gastric and duodenal ulceration associated with increased mucosal eosinophil counts[11]. In our cohort, these findings may be related to disease chronicity or the severity of hypereosinophilia, resulting in greater mucosal damage.

Colonoscopy Findings:
Colonoscopy revealed internal haemorrhoids as the most common abnormality (80%), followed by terminal ileal erosions (31%) and colonic ulcers (26%), while polyps and diverticuli were observed in 7% and 5% of patients, respectively. The high prevalence of haemorrhoids is likely unrelated to eosinophilic GI disease and may be attributed to the older age of the cohort, as they are common in older adults and associated with increased venous pressure and straining during defecation. In contrast, terminal ileal and colonic erosions may reflect eosinophilic infiltration of the lower GI tract, consistent with Hurrell et al. (2011)[7], who reported similar findings in eosinophilic colitis. Colonic ulceration, observed in 26% of our patients, may indicate more extensive mucosal inflammation and damage and is consistent with Bates (2012) [13], who described colonic ulcers in eosinophilic proctocolitis, a subtype predominantly involving the rectum and colon. Polyps and diverticuli are likely incidental findings rather than direct manifestations of eosinophilia, as both are common, often asymptomatic conditions in older adults, and may reflect the age distribution of our cohort.

Histopathological Findings: UGIE:
Histopathological examination of upper GI biopsies revealed normal histology in 50% of patients, while eosinophilic gastritis, eosinophilic duodenitis and eosinophilic oesophagitis were identified in 20%, 7% and 5%, respectively. Non-specific gastroduodenitis and chronic active gastritis were observed in 31% and 26% of patients, respectively. The prevalence of eosinophilic gastritis in our cohort is comparable to Talley et al. (1990)[14], who reported histological evidence of eosinophilic gastritis in 15–30% of patients with suspected eosinophilic gastroenteritis. Zuo and Rothenberg (2007) [9] also described chronic active inflammation of the stomach and oesophagus associated with eosinophilic infiltration, sometimes presenting as non-specific histological changes.

The high proportion of normal biopsies (50%) may be explained by the patchy or segmental distribution of eosinophilic infiltration, which can result in missed diagnoses when sampling is limited or does not include affected areas. This highlights the importance of obtaining multiple biopsies from different GI segments. When clinical suspicion persists despite normal histology, repeat or targeted biopsies may be considered to improve diagnostic yield.

Histopathological Findings: Colonoscopy:
Histopathological examination of colonoscopic biopsies revealed normal histology in 61% of patients, eosinophilic proctocolitis in 12% and chronic ileocolitis in 16%. These findings are consistent with Bates (2012), who reported eosinophilic colitis and proctocolitis among patients with lower GI symptoms[13]. Eosinophilic proctocolitis predominantly affects the rectum and colon, causing inflammation and ulceration, with clinical manifestations such as diarrhoea, abdominal pain and rectal bleeding. The 12% prevalence observed in our study is comparable to that reported in other EGID studies.

As with upper GI findings, the high proportion of normal biopsies (61%) may be explained by the focal and patchy distribution of eosinophilic infiltration, resulting in normal histology in unaffected segments despite significant symptoms. This underscores the importance of obtaining adequate biopsies from multiple ileal and colonic sites. Chronic ileocolitis, identified in 16% of patients, indicates persistent intestinal inflammation and mucosal damage, which may contribute to the clinical manifestations observed in this cohort.

Absolute Eosinophil Count (AEC) and Correlation with Histopathology:
The median absolute eosinophil count (AEC) in our study population was 2,214 cells/μL (IQR: 1,772–2,634.5). Comparison of peripheral AEC between patients with and without eosinophilic oesophagitis, gastritis, duodenitis and

proctocolitis showed no statistically significant differences for any of these conditions ($p > 0.05$). This indicates that the magnitude of peripheral eosinophilia may not necessarily correspond to the presence of eosinophilic infiltration in individual GI segments.

Our findings are consistent with Roufosse and Weller (2010), who highlighted that tissue-specific eosinophilia does not always parallel systemic eosinophilia[15]. Similarly, Bischoff et al. (1999) reported that peripheral blood eosinophil counts do not reliably reflect the degree of eosinophilic infiltration within the GI tract[16]. This lack of correlation may be explained by the underlying pathophysiology of EGIDs, which involves local immune activation and cytokine-mediated recruitment and accumulation of eosinophils within affected tissues, rather than systemic eosinophilia alone. Consequently, patients may exhibit elevated peripheral AEC without corresponding tissue infiltration, or significant local eosinophilic involvement despite relatively similar peripheral counts. Therefore, peripheral AEC should be interpreted as a supportive rather than definitive marker of GI involvement, and histopathological examination of appropriately sampled tissue biopsies remains gold standard for establishing the diagnosis and assessing the distribution of eosinophilic infiltration.

CONCLUSION:

The present study demonstrates that gastrointestinal involvement in patients with hypereosinophilia encompasses a wide spectrum of clinical, endoscopic and histopathological manifestations, predominantly affecting older adults, with a slight female preponderance. Abdominal pain was the most common presenting symptom, followed by vomiting, retrosternal burning and dysphagia, suggesting involvement of multiple gastrointestinal segments. Upper GI endoscopy frequently revealed antral erosions, reflux oesophagitis and erosive gastritis, while colonoscopy commonly identified internal haemorrhoids, terminal ileal erosions and colonic ulcers. Histopathological examination revealed eosinophilic gastritis (20%), eosinophilic duodenitis (7%), eosinophilic oesophagitis (5%) and eosinophilic proctocolitis (12%), along with other inflammatory changes.

Notably, normal histology was observed in 50% of upper GI biopsies and 61% of colonic biopsies, highlighting the patchy distribution of eosinophilic infiltration and the importance of adequate multisite tissue sampling. Although the median absolute eosinophil count (AEC) was 2,214 cells/μL, no statistically significant differences were observed between patients with and without histologically confirmed eosinophilic involvement in individual GI segments, indicating that peripheral eosinophil counts alone may not reliably predict tissue involvement or disease extent. Therefore, a comprehensive diagnostic approach integrating clinical assessment, endoscopic evaluation and histopathological examination is essential, with multiple biopsies from appropriate GI segments remaining crucial for accurate diagnosis and peripheral AEC serving as a supportive rather than definitive marker of tissue involvement.

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