International Journal of Science and Research Archive
eISSN: 2582-8185
Cross Ref DOI: 10.30574/ijsra
Journal homepage: https://ijsra.net/

(RESEARCH ARTICLE)

Check for updates

Contributions of endoscopy in upper Gastrointestinal Crohn's Disease

Meriem Tamdaoui *, Salma Kaouissi, Salma Mechhor, Manal Cherkaoui Malki, Hicham El Bacha, Nadia Benzzoubeir and Ikram Errabih

Department of Hepato-Gastroenterology and Proctology, Medicine B, Ibn Sina University Hospital, Mohammed V University, Rabat, Morocco.

International Journal of Science and Research Archive, 2025, 16(03), 090-092

Publication history: Received on 22 July 2025; revised on 30 August 2025; accepted on 02 September 2025

Article DOI: https://doi.org/10.30574/ijsra.2025.16.3.2509

Abstract

Upper gastrointestinal involvement in Crohn's disease is uncommon and frequently asymptomatic, yet it represents a marker of disease severity. In this retrospective study of 296 patients followed at Ibn Sina University Hospital between 2017 and 2022, 18 patients (6%) had confirmed upper GI involvement. The mean age was 33.8 years, with a male-to-female ratio of 1.57. Half of the patients were asymptomatic (50%, n = 9). The inflammatory phenotype predominated in nine patients (60%, n = 9), while structuring and mixed structuring-fistulizing forms were observed in six patients (40%, n = 6). Duodenal involvement was most frequent (44.4%, n = 8), followed by jejunal (16.6%, n = 3), duodenojejunal (11.1%, n = 2), gastric (11.1%, n = 2), esophageal (11.1%, n = 2), and bunco-esophageal (5.5%, n = 1) locations. Endoscopic abnormalities were present in 11 patients (61.2%, n = 11), and biopsies confirmed disease even in two patients (20%, n = 2) with normal endoscopy. These results highlight the importance of systematic upper GI endoscopy with biopsies for early detection, risk stratification, and guiding therapeutic decisions in Crohn's disease.

Keywords: Crohn's Disease; Upper Gastrointestinal Tract; Endoscopy; Biopsy; Disease Severity

1. Introduction

Crohn's disease (CD) is a chronic inflammatory disorder of the gastrointestinal tract, characterized by an unpredictable course and a high risk of severe complications. Although ileal and colonic involvement is most frequent, the upper gastrointestinal tract can also be affected. These lesions are often paucisymptomatic or asymptomatic but represent a marker of disease severity, particularly due to their association with structuring or fistulizing phenotypes. Upper gastrointestinal endoscopy, combined with systematic biopsies, remains the reference examination for detecting these lesions and guiding therapeutic management.

2. Materials and Methods

We conducted a retrospective descriptive single-center study at the Department of Hepato-Gastroenterology and Proctology "Medicine B" of Ibn Sina University Hospital over a five-year period (January 2017 – December 2022). All patients with confirmed upper gastrointestinal CD involvement were included.

Endoscopic assessment consisted of systematic esophagogastroduodenoscopy (EGD) with gastric and duodenal biopsies, even in the absence of macroscopic lesions. Epidemiological, clinical, endoscopic, and histological data were collected. Disease phenotype and topographical distribution were classified according to the Montreal classification.

* Corresponding author: Meriem Tamdaoui

3. Results

Among 296 patients followed for Crohn's disease, 18 presented with upper gastrointestinal involvement, corresponding to a prevalence of 6% (n = 18). The mean age was 33.8 years (range 18–71), with a male-to-female ratio of 1.57. Four patients (22.2%) were smokers, and three patients (16.6%) had a family history of IBD.

Half of the patients were asymptomatic (50%, n = 9). The most common symptoms were epigastric pain in six patients (33.3%), dysphagia in two patients (11.1%), and Koenig's syndrome in one patient (5.5%).

According to the Montreal classification, the inflammatory phenotype predominated in nine patients (60%), followed by structuring forms in three patients (20%) and mixed structuring-fistulizing forms in three patients (20%).

Upper gastrointestinal involvement was isolated in three patients (16.6%) and associated with colonic involvement in six patients (33.3%), ileocolic involvement in five patients (27.7%), and ileal involvement in four patients (22.2%).

Topographic distribution was as follows: duodenal in eight patients (44.4%), jejunal in three patients (16.6%), duodenojejunal in two patients (11.1%), gastric in two patients (11.1%), esophageal in two patients (11.1%), and buck-esophageal in one patient (5.5%).

EGD was abnormal in 11 patients (61.2%): duodenal aphthous ulcers in five patients (27.7%), esophageal aphthous ulcers in three patients (16.6%), duodenal stricture in one patient (5.5%), impassable esophageal stricture in one patient (5.5%), and erythematous pangastritis in one patient (5.5%). Biopsies confirmed upper GI involvement in four patients (36%) among those with abnormal EGD.

In seven patients (38.8%), EGD was macroscopically normal, but biopsies revealed lesions compatible with Crohn's disease in two patients (20%).

Figure 1 Aphthous ulcer in the distal third of the esophagus observed by endoscopy in a patient with Crohn's disease

Table 1 Distribution of upper gastrointestinal locations in Crohn's disease

Upper GI location	Number of patients (n)	%
Duodenal	8	44,4 %
Jejunal	3	16,6 %
Duodenojejunal	2	11,1 %
Gastric	2	11,1 %
Esophageal	2	11,1 %
Bucco-esophageal	1	5,5 %

4. Discussion

Crohn's disease (CD) is a chronic inflammatory disorder of the gastrointestinal tract that can involve the entire tract, including the upper gastrointestinal (GI) tract, although this localization is rare and often asymptomatic [1,2]. Upper gastrointestinal endoscopy (EGD) remains the gold standard for detecting these lesions, allowing visualization of aphthous ulcers, strictures, or diffuse inflammatory changes, and performing systematic biopsies essential for histological confirmation, even in the absence of macroscopic lesions [3–5]. European and North American guidelines emphasize the value of systematic assessment in all patients, as upper GI involvement is a marker of disease severity and may influence therapeutic strategy [6,7].

In our series, the prevalence of upper GI involvement was 6%, with a mean age of 33.8 years and a slight male predominance, consistent with international series [7–10]. Half of the patients were asymptomatic, highlighting the need for systematic screening, as significant lesions can exist in the absence of symptoms. EGD was abnormal in 61.2% of patients, and biopsies confirmed upper GI involvement in 36% of cases with macroscopic lesions and in 20% of cases with normal EGD, emphasizing the crucial role of systematic biopsies to detect subclinical lesions [3,7,9].

Topographic distribution—duodenal (44.4%), jejunal (16.6%), duodenojejunal (11.1%), gastric (11.1%), esophageal (11.1%), and buck-esophageal (5.5%)—aligns with literature trends, where duodenal involvement predominates and esophageal involvement remains exceptional [7,8]. Isolated upper GI involvement was rare (16.6%), with most upper tract lesions associated with distal disease, confirming the need for a comprehensive, systematic evaluation at initial diagnosis [9,10].

The inflammatory phenotype predominated (60%), whereas structuring and mixed structuring-fistulizing forms represented 40% of cases, reflecting the severe potential evolution of CD and the importance of careful endoscopic surveillance [11,12]. Early detection of upper GI involvement directly impacts management, enabling timely initiation of immunomodulatory or biologic therapy and prevention of complications such as strictures or fistulas [13–15].

Our results also highlight the prognostic value of upper GI endoscopy in stratifying patients according to the risk of progression to severe forms, thereby guiding personalized follow-up and therapy [16–18]. Although limited by its retrospective, single-center design and small sample size, our study confirms the central role of upper GI endoscopy in diagnosis, prognostic stratification, and therapeutic optimization in CD. These findings reinforce the recommendation for a systematic protocol including biopsies and comprehensive endoscopic evaluation in all patients, even if asymptomatic.

5. Conclusion

Upper gastrointestinal endoscopy, combined with systematic biopsies, is essential for the detection of upper GI Crohn's disease. Although rare, these lesions must be identified early, as they represent a marker of disease severity and require specific therapeutic adaptation. Comprehensive endoscopic assessment allows detection of subclinical lesions, evaluation of disease phenotype, and guidance of therapeutic decisions, particularly regarding immunomodulatory or biologic therapy. Thus, upper GI endoscopy plays a pivotal role in diagnosis, prognostic stratification, and personalized management of Crohn's disease.

Compliance with ethical standards

Disclosure of conflict of interest

The authors declare that they have no conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

References

[1] Oberhuber G, Hirsch M, Stolte M. High incidence of upper gastrointestinal tract involvement in Crohn's disease. Virchows Arch. 1998;432(1):49–52.

[2] Schmidt-Sommerfeld E, Kirschner BS, Stephens JK. Endoscopic and histologic findings in the upper gastrointestinal tract of children with Crohn's disease. J Pediatr Gastroenterol Nutr. 1990;11(4):448–54.

[3] Parente F, Cucino C, Bollani S, et al. Focal gastric inflammatory infiltrates in inflammatory bowel diseases: prevalence, immunohistochemical characteristics, and diagnostic role. Am J Gastroenterol. 2000;95(3):705–11.

[4] Greuter T, Biedermann L, Fournier N, et al. Upper gastrointestinal tract involvement in Crohn's disease: frequency, risk factors, and disease course. J Crohns Colitis. 2018;12(12):1399–1409.

[5] Dąbkowski K, Graca-Pakulska K, Zawada I, et al. Endoscopic findings in the upper gastrointestinal tract in patients with Crohn's disease are common, highly specific, and associated with chronic gastritis. Sci Rep. 2023;13(1):703.

[6] Yantiss RK, Farraye FA, O'Brien MJ, et al. Prognostic significance of superficial fissuring ulceration in patients with severe "indeterminate" colitis. Am J Surg Pathol. 2003;27(5):563–70.

[7] Daperno M, D'Haens G, van Assche G, et al. Development and validation of a new, simplified endoscopic activity score for Crohn's disease: the SES-CD. Gastrointest Endosc. 2004;60(4):505–12.

[8] Press JZ, Bhagat G, Dube S, et al. Gastric microbiome alterations in Crohn's disease patients without Helicobacter pylori infection. J Clin Gastroenterol. 2022;56(9):753–60.

[9] Sharif F, McDermott M, Dillon M, et al. Focally enhanced gastritis in children with Crohn's disease and ulcerative colitis. Am J Gastroenterol. 2002;97(6):1415–20.

[10] Oberhuber G, Hirsch M, Stolte M. High incidence of upper gastrointestinal tract involvement in Crohn's disease. Virchows Arch. 1998;432(1):49–52.

[11] Yantiss RK, Farraye FA, O'Brien MJ, et al. Prognostic significance of superficial fissuring ulceration in patients with severe "indeterminate" colitis. Am J Surg Pathol. 2003;27(5):563–70.

[12] Daperno M, D'Haens G, van Assche G, et al. Development and validation of a new, simplified endoscopic activity score for Crohn's disease: the SES-CD. Gastrointest Endosc. 2004;60(4):505–12.

[13] Press JZ, Bhagat G, Dube S, et al. Gastric microbiome alterations in Crohn's disease patients without Helicobacter pylori infection. J Clin Gastroenterol. 2022;56(9):753–60.

[14] Sharif F, McDermott M, Dillon M, et al. Focally enhanced gastritis in children with Crohn's disease and ulcerative colitis. Am J Gastroenterol. 2002;97(6):1415–20.

[15] Oberhuber G, Hirsch M, Stolte M. High incidence of upper gastrointestinal tract involvement in Crohn's disease. Virchows Arch. 1998;432(1):49–52.

[16] Yantiss RK, Farraye FA, O'Brien MJ, et al. Prognostic significance of superficial fissuring ulceration in patients with severe "indeterminate" colitis. Am J Surg Pathol. 2003;27(5):563–70.

[17] Daperno M, D'Haens G, van Assche G, et al. Development and validation of a new, simplified endoscopic activity score for Crohn's disease: the SES-CD. Gastrointest Endosc. 2004;60(4):505–12.

[18] Press JZ, Bhagat G, Dube S, et al. Gastric microbiome alterations in Crohn's disease patients without Helicobacter pylori infection. J Clin Gastroenterol. 2022;56(9):753–60.