

## Particularities of IBD in the Elderly

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### Abstract

Inflammatory bowel disease (IBD) begins usually between 20 and 30. A second peak in incidence between 50 and 70 has been recognized. IBD in the elderly is defined as disease diagnosed after the age of 60. IBD in the elderly are special entity, characterized by their weakness, associated comorbidity, and their sometimes-severe course. The aim of this study was to investigate the epidemiological, clinical, therapeutic and evolutionary particularities of IBD in elderly. This is a retrospective study over a 5-year period from July 2018 to July 2023 on 424 patients followed for IBD. We included patients with documented CD or UC and who are over 60 years of age at the time of diagnosis. Of the 16 patients enrolled, mean age at diagnosis was 69.48 [60-82], sex ratio F/M 1.28, 2 patients were smokers (12.5%), 13 (81.25%) had at least one associated comorbidity. 7 patients had CD (43.75%), 7 had UC (43.75%), and 2 had indeterminate colitis (12.5%). 3 patients underwent surgery (18.75%), 2 for severe acute colitis with subtotal colectomy and ileorectal anastomosis, and 1 for ileal fistulas with ileocecal resection and ileocolic anastomosis. The progression was favorable, with an average number of relapses of 2/year, and an average number of severe relapses of 0.5/year. Maintenance of remission was noted in 15 cases (93.75%). 8 patients were on 5-Aminosalicylates (5ASA) (50%), corticosteroids and immunosuppressives was prescribed in 4 patients (25%), anti-TNFs in 2 patients (12.5%), anti-interleukins 1 patient (6.25%) and 1 patient was in remission on no treatment. In conclusion, the disease localization and phenotype in this study are like those reported in the literature relating to elderly IBD patients, and despite concerns about the risk of acquiring infections and malignancies in this age group, a high rate of corticosteroids and immunosuppressive prescription is noted.

**Keywords:** Inflammatory Bowel Disease, Elderly, Ulcerative colitis, Crohn's disease, Particularities, IBD.

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## INTRODUCTION

Ulcerative colitis (UC) and Crohn's disease (CD), collectively known as inflammatory bowel diseases (IBD), are a group of idiopathic inflammatory conditions that are becoming increasingly prevalent in many countries around the world [1]. IBD starts at a young age, usually between 20 and 30. However, a second age of incidence between 50 and 70 has been recognized. Inflammatory bowel diseases in the elderly are defined as those diagnosed after the age of 60. Both CD and UC in the elderly are a special entity, characterized by their onset in a vulnerable subject, often with associated comorbidity, and their sometimes-severe evolution [2-5].

In 2005, the Working Party of the World Congress of Gastroenterology in Montreal introduced the Montreal Classification, a classification system for IBD based on criteria such as age at diagnosis, disease

location, phenotype and severity [6]. Although imaging can support these findings, endoscopy is considered the gold standard for diagnosis [7].

When it comes to therapeutic choice, the elderly present a unique challenge due to comorbidities, polymedication, drug interactions, the likely discrepancy between chronological and biological age, and the low level of knowledge about optimal therapeutic options for elderly IBD patients [8]. 5-aminosalicylates (5-ASAs), corticosteroids, immunosuppressives and biologic therapies are the therapeutic classes most commonly used to treat IBD [3]. The choice of treatment is generally based on many factors, such as disease location, phenotype, severity, presence of extra-intestinal manifestations of IBD, perianal involvement, risk of infection, comorbidities and accessibility [9].

In elderly patients, the dynamics of treatment choice differ from those of younger patients, due to the

increased risk of infection, the presence of comorbidities and the risk of malignancies. A clear description of disease characteristics and treatment patterns in this subpopulation of IBD patients is needed for better decision-making [23].

The aim of this study was to investigate the epidemiological, clinical, therapeutic and evolutionary features of IBD in this age group.

## PATIENTS AND METHODS

### Participants and Data Collection

This is a retrospective descriptive study conducted over a 5-year period from July 2018 to July 2023 involving 424 patients followed up for IBD. We included in our study patients of both sexes, with documented CD or UC and who were over 60 years of age at the time of diagnosis, we excluded patients lost to follow-up, whose follow-up could not be ensured. Data were collected from patients' medical records, which included a wide range of parameters, such as demographics, disease duration, disease course, phenotype, localization, comorbidities, family history, smoking history, extra intestinal manifestations (EIM), disease complications, surgical interventions, treatments and patients' evolutionary profile.

In the present study, the diagnosis of IBD was established on the basis of standard clinical, endoscopic, radiological and histological criteria. We defined elderly patients as those aged 60 or over. In addition, patients were classified according to the Montreal classification, which includes three parameters: age of disease onset, disease location and disease phenotype. Age of disease onset was classified as A1 (diagnosed at 16 years of age or less), A2 (diagnosed between 17 and 40 years of age) and A3 (diagnosed at over 40 years of age), respectively. In CD, location was classified as L1 (terminal ileal), L2 (colonic), L3 (ileocolic) and L4 (upper gastrointestinal),

and disease phenotype was classified as B1 (inflammatory), B2 (stricturing) and B3 (penetrating). Perianal fistulizing disease did not constitute penetrating disease but were considered a modifier of disease behavior (p). In the case of UC, the extent of disease was described as E1 (ulcerative proctitis), E2 (left sided UC) or E3 (pancolitis UC), and disease severity as S0 (clinical remission), S1 (mild UC), S2 (moderate UC), and S3 (severe UC).

### Statistical Analysis

Data were entered into Microsoft Excel version 2016. Descriptive statistical analysis was performed using SPSS 25.0 software. Qualitative data were expressed as numbers and percentages, and quantitative data were expressed as mean and standard deviation (mean  $\pm$  SD). Data normality was assessed using the one-sample Kolmogorov-Smirnov test. Qualitative data were expressed as numbers and percentages and compared using the chi-square ( $\chi^2$ ) test or one-way analysis of variance (ANOVA). A P value of <0.05 was considered statistically significant.

## RESULTS

### 1. Epidemiological Data

A total of 424 patients were identified followed up for IBD. After applying the inclusion criteria, data were collected from 16 (3.77%) patients aged over 60 years at diagnosis between July 2018 and July 2023. Mean age at diagnosis was 69.48 years [60-82], sex ratio F/H 1.28 (9 women vs. 7 men), 7 patients had CD (43.75%), 7 had UC (43.75%), and 2 indeterminate colitis (12.5%). Mean BMI of patients was 22.55 Kg/m<sup>2</sup>.

2 patients were smokers (12.5%), 13 (81.25%) had at least one associated comorbidity, no patient had a family history of IBD.

Demographics are further described in Table 1.

**Table 1: Epidemiological characteristics of patients**

Variables	CD (n=7)	UC (n=7)	IBDU (n=2)	Total	P
Age at onset of the disease (Mean +/- SD)	67.28 $\pm$ 9.51	70.19 $\pm$ 9.28	72.50 $\pm$ 8.86	69.48 $\pm$ 9.721	0.069 <sup>#</sup>
BMI (Mean +/- SD)	22.42 $\pm$ 0.38	22.63 $\pm$ 0.49	22.39 $\pm$ 0.28	22.55 $\pm$ 0.45	0.190 <sup>#</sup>
Gender (%)					
Male	3 (42.85)	3 (42.85)	1 (12.500)	7 (43.75)	0.020*
Female	4 (57.14)	4 (57.14)	1 (87.500)	9 (56.25)	
Smoking (%)					
Smoker	1 (14.28)	0 (0)	1 (50)	2 (12.50)	0.439*
Non-Smoker	5 (71.42)	7 (100)	0 (100)	12 (75)	
Ex-Smoker	1 (14.28)	0 (0)	1 (50)	2 (12.50)	
Family history Comorbidities%	0 (0)	0 (0)	0 (0)	0 (0)	1.000*
Hypertension	3 (42.85)	1 (14.28)	0 (0)	4 (25)	0.055*
Mellitus diabete	1 (14.28)	2 (28.57)	0 (0)	3 (18.75)	
Malignant neoplasm	2 (28.57)	0 (0)	0 (0)	2 (12.5)	

Variables	CD (n=7)	UC (n=7)	IBDU (n=2)	Total	P
Benign prostatic Hyperplasia	0 (0)	1 (14.28)	0 (0)	1 (6.25)	
Arthrosis	1 (14.28)	0 (0)	0 (0)	1 (6.25)	
Ischemic heart diseases	1 (14.28)	1 (14.28)	1 (50)	2 (12.5)	

#One-way ANOVA test, \*Chi-squared test

## 2. Clinical Data

CD was of ileal topography in 2 patients (28.57%), ileocolic in 2 patients (28.57%), colonic in 3 patients (42.85%), ano-perineal in 1 patient (14.28%), it

is of stricturing phenotype in 3 patients (42.85%), inflammatory in 3 patients (42.85%), and penetrating in 1 patient (14.28%) 2 patients (28.57%) had associated upper involvement [table 2].

**Table 2: Clinical data for patients followed for CD according to the Montreal classification**

Variable	Classification	N	(%)	P
Age of disease onset	A1 (<17 years)	0	0	0.338
	A2 (17–40 years)	0	0	
	A3 (>40 years)	7	100	
Disease location	L1 (ileal)	2	28.57	0.762
	L2 (colonic)	3	42.85	
	L3 (ileocolonic)	2	28.57	
Disease behavior	B1 (inflammatory)	3	42.85	0.171
	B2 (stricturing)	3	42.85	
	B3 (penetrating)	1	14.28	
Upper IG modifier	L4 (isolated upper disease) yes	0	0	0.103
	L4 (isolated upper disease) no	2	100	
Perianal disease modifier	P (yes)	1	14.28	0.518
	P (no)	6	85.72	

UC was pan-colitis in 2 cases (28.57%), left sided colitis in 3 cases (42.85%) and proctitis in 2

patients (28.57%), and only 1 patient (14.28%) had severe UC [table 3].

**Table 3: Clinical data for patients followed for UC according to the Montreal classification**

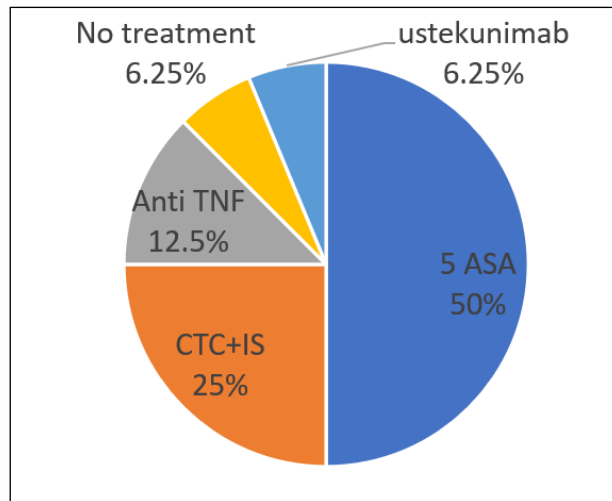
Variable	Classification	N	(%)	P
Age of disease onset	A1 (<17 years)	0	0	0.383
	A2 (17–40 years)	0	0	
	A3 (>40 years)	7	100	
Extent	E1 (proctitis)	2	28.57	0.810
	E2 (left sided colitis)	3	42.85	
	E3 (pancolitis)	2	28.57	
severity	S0 (UC in clinical remission)	3	42.85	0.975
	S1 (mild UC)	2	28.57	
	S2 (moderate UC)	1	14.28	
	S3 (severe UC)	1	14.28	

5 patients (31.25%) of the 16 elderly subjects followed for IBD had EIM: 1 erythema nodosum, 1 Axial spondylarthritis, 3 peripheral arthritis.

## 3. Therapeutic Data

The medications used to treat IBD are listed in Figure 1.

5-ASA was prescribed in 8 patients (50%), corticosteroids and immunosuppressives (thiopurines) in 4 patients (25%), and tumor necrosis factor (anti-TNFs) (infliximab and adalimumab) in 2 patients (12.5%) and anti-interleukins (ustekinumab) were used in 1 patient (6.25%) and 1 patient was in remission on no treatment.



**Figure 1: Medications prescribed for IBD in patients over 60 years of age**

3 patients underwent surgical resection for IBD (18.75%), 2 in the emergency context for severe acute colitis with subtotal colectomy and ileo rectal anastomosis, and 1 patient for ileal fistulas with ileocaecal resection and ileo colic anastomosis.

#### 4. Course

The course of the disease was generally favorable, with an average number of relapses of 2/year, and an average number of severe relapses of 0.5/year.

Maintenance of remission was noted in 15 cases (93.75%).

## DISCUSSION

In this study, we describe the clinical and epidemiological characteristics of elderly IBD patients in our Moroccan context. Elderly IBD patients and their characteristics have been the subject of many studies, including a study conducted in Hungary, which compared the characteristics of IBD in all age groups and concluded that elderly patients with CD were more likely to present with colonic disease, and UC patients were more likely to present with left-sided disease [10]. In addition, a study published in 2016 of the elderly Turkish population followed for CD also concluded that colonic localization was the most common presentation, with most patients on 5-ASA [11].

In addition to this, a previous study in Canada also revealed that most CD patients had disease localized to the colon. However, most elderly UC patients had extensive colitis, and both groups were more likely to be prescribed 5-ASA [12]. Our results show that the localization of disease in elderly Moroccan patients is consistent with the literature and explains the prescription of 5-ASAs as the main therapeutic option.

The Montreal classification independently classifies early-onset disease into a new A1 category for people whose age at diagnosis is 16 or under, while A2

and A3 categories correspond respectively to age at diagnosis 17 to 40 and age at diagnosis over 40 [13].

The 16 patients included in our study were diagnosed with IBD at or after the age of 60. There are several important differences between adult-onset and late-onset IBD, which may indicate variations in disease progression and impact treatment strategies for IBD patients in later life. Previous studies have suggested that late-onset UC initially presents with more severe symptoms [4-15]. The results of our study do not agree with those of the literature: CD and UC in this group of patients usually have a less severe evolutionary genesis, with a lower risk of complications. These notions argue strongly in favor of a conservative therapeutic approach in patients with late-onset IBD.

In a previous study to assess the characteristics and behavior of late-onset IBD, researchers observed high rates of pancolitis among late-onset UC cases and suggested the need for early intervention with aggressive treatment using immunomodulators or TNF-alpha antagonists (anti-TNFs) for late-onset UC [16]. A univariate analysis showed that patients with young-onset UC were more likely than those with advanced-onset UC to have undergone intestinal resection or perianal surgery [16]. Finally, thrombotic events are more common in elderly IBD patients, which may be due to the thromboembolic risk that accompanies IBD, reduced mobility and dehydration, all of which are more prevalent in older patients [17, 18]. In our series, no thromboembolic events were reported.

Treatment patterns for elderly IBD patients are strongly influenced by concerns about adverse events such as infections and malignancies. Treatment options that predispose to infections in this age group include corticosteroids, immunosuppressives and TNF-alpha antagonists. We might therefore expect 5-ASAs and gut-selective agents such as vedolizumab to be preferred choices for treating IBD. This finding is consistent with

an international study by Benchimol *et al.*, [19], which reported an increase in the use of corticosteroids.

Furthermore, a recent review of the literature on this topic revealed that despite well-established toxicities, population-based trials have demonstrated that elderly IBD patients are still prescribed corticosteroids at a higher rate, regardless of age [20]. In theory, gut-selective agents such as vedolizumab are safer for patients at risk of infections and malignancies, and their use in this IBD patient population should therefore be encouraged. In a matched case-control study, vedolizumab was shown to have an efficacy and safety profile in elderly IBD patients that was comparable to that of younger controls, in terms of promoting mucosal healing, as demonstrated endoscopically. Although elderly patients tend to require more IBD-related surgical procedures, no statistically significant differences were identified [21]. In our series, only 3 patients underwent IBD-related surgical resection (18.75%), 2 in the emergency setting for severe acute colitis with subtotal colectomy and ileo rectal anastomosis and 1 patient for ileal fistulas with ileocaecal resection and ileo colonic anastomosis.

As mentioned in the RAND report, which is from a research organization that develops solutions to public policy challenges, variations in medication usage are multifactorial, and differences in clinical practice, service organization, and system-level factors play a central role in these variations [22]. Furthermore, the therapeutic choices in elderly IBD patients may be influenced by the patient's tolerance and the physicians' preferences [23].

Although we are convinced that our study has achieved its main objective, which is to identify the disease characteristics and treatment patterns of elderly IBD patients in Morocco, certain limitations of this study must be highlighted. These results are based on a monocentric retrospective study and, as such, possess all the disadvantages of retrospective studies, such as the possibility of information bias and, since this is an observational study, the presence of residual confounding factors cannot be totally excluded.

## CONCLUSION

In conclusion, the disease localization and phenotype in this single-center retrospective study are like those reported in the literature relating to elderly IBD patients, and despite concerns about the risk of acquiring infections and malignancies in this age group, a high rate of corticosteroids and immunosuppressive prescription is noted.

And to illustrate the practical application of these concepts on the management of elderly people with IBD, differential diagnoses such as *Clostridium difficile* colitis or ischemic colitis, must be considered without forgetting risk management such as thromboembolic

complications, infections and decompensation of comorbidities.

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