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Original article

Clinical course, complications, and requirement for advanced therapy in patients with ulcerative colitis

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Abstract

Introduction: Ulcerative colitis is a chronic inflammatory bowel disease whose clinical course and therapeutic requirements have been described mainly in North American and European cohorts. In Latin America, information from real-world longitudinal studies remains limited. **Methodology:** Researchers conducted a retrospective case series that included adult patients with a confirmed diagnosis of ulcerative colitis treated at a Colombian referral center between January 2020 and April 2025. They collected sociodemographic variables, disease extent, treatments received, intestinal and extraintestinal complications, surgical requirements, and use of advanced therapies. The analysis was descriptive. **Results:** The study included 53 patients, with a predominance of women (60.4%). Proctitis was the most frequent presentation (41.7%). A total of 28.3% experienced at least one intestinal complication, and bleeding requiring hospitalization was the most common (18.9%). Extraintestinal manifestations occurred in 15.1%, while 9.4% required surgical management. A total of 30.2% were refractory to conventional therapy and required escalation to advanced therapies, initiated on average 46 months after diagnosis; vedolizumab was the most frequently used agent. **Conclusions:** A significant proportion of patients with ulcerative colitis in this Colombian case series developed complications and required advanced therapies, generally at a late stage. These findings provide local real-world evidence and highlight the need to optimize follow-up and timely therapeutic escalation.

Keywords

Ulcerative colitis, inflammatory bowel diseases, longitudinal studies, biological therapy.

INTRODUCTION

Ulcerative colitis (UC) is a chronic inflammatory bowel disease (IBD) characterized by continuous inflammation of the colonic mucosa, which typically begins in the rectum and extends proximally. This distribution pattern and its intermittent clinical course, characterized by alternating periods of disease activity and remission, have been extensively described in the international literature[(1)]. Its etiology is multifactorial and involves a complex interplay among genetic predisposition, epithelial barrier dysfunction, innate and adaptive immunity, and environmental factors[(2)]. The sustained increase in the global incidence of UC, particularly in regions undergoing rapid urbanization,

further supports the central role of environmental factors in the pathogenesis of the disease[1].

Although the highest incidence rates have been reported in North America, Europe, and Australia, a progressive increase in the incidence of UC has also been documented in Latin America[3,4]. This increase has been associated with Westernization, dietary changes, and disparities in access to timely diagnosis, thereby posing specific clinical challenges in the region[3].

Clinically, UC presents with bloody diarrhea, fecal urgency, tenesmus, and abdominal pain. Diagnosis requires integration of clinical, endoscopic, and histologic findings, together with exclusion of infectious causes[2]. According to long-term population-based studies, 30%–60% of patients present with proctitis, 16%–45% with left-sided colitis, and 14%–35% with pancolitis[1]. Disease extent has important prognostic implications, including an increased risk of colectomy and complications in patients with extensive disease involvement[2].

Current treatment of UC is based on a treat-to-target approach aimed at inducing and maintaining clinical and endoscopic remission through the sequential use of aminosalicylates, corticosteroids, immunomodulators, biologic agents, and Janus kinase (JAK) inhibitors[1,2]. However, challenges related to inequities in access to advanced therapies, diagnostic delays, and difficulties in accessing specialized follow-up care persist in Latin America[5].

Despite these advances, data from Latin American cohorts remain scarce, limiting the understanding of the clinical behavior of UC in the region and hindering the development and consolidation of locally relevant epidemiologic knowledge. Most descriptions of the natural history of UC originate from North America and Europe, limiting the direct applicability of these findings to populations with different sociodemographic characteristics and healthcare systems.

In this context, the present study describes the clinical characteristics and course of disease, the occurrence of intestinal and extraintestinal complications, and the use of advanced therapies in a cohort of patients with UC treated at a Colombian referral center. This study provides locally relevant evidence to contextualize UC care in Latin America and support the development of regionally tailored strategies.

METHODS

A retrospective case-series study was conducted in adult patients with a confirmed diagnosis of UC who received care at a referral center in Bogotá, Colombia, between January 2020 and April 2025. Cases were identified through a review of institutional electronic medical records.

All patients with a confirmed diagnosis of UC based on clinical, endoscopic, and histologic criteria were included. Patients with incomplete clinical information precluding determination of the temporal course of complications or use of advanced therapies were excluded.

For each patient, sociodemographic and clinical variables were collected, including disease extent (proctitis, left-sided colitis, or pancolitis), family history of IBD, extraintestinal manifestations, treatments received, and therapeutic refractoriness. The use of immunomodulators, biologic agents, and small-molecule therapies was also documented, as were the reasons for treatment escalation and the occurrence of treatment-related adverse events.

Intestinal complications were defined as bleeding requiring hospitalization, intestinal obstruction, postinflammatory polyps, abscesses, or the need for surgical intervention. Extraintestinal manifestations were recorded separately and included primary sclerosing cholangitis, uveitis, spondyloarthritis, sacroiliitis, polyarthropathy, osteoporosis, and thromboembolic disease.

For each case, the time from initial diagnosis to the occurrence of the first intestinal complication was determined. A descriptive analysis of the cohort was also performed, with continuous variables expressed as means and categorical variables as frequencies and valid percentages. Statistical analyses were performed descriptively using R software, version 4.5.2.

RESULTS

The study included 53 patients with UC treated at a referral center between January 2020 and April 2025. Of the total cohort, 21 patients were men (39.6%) and 32 were women (60.4%). The median age at diagnosis was 40 years (interquartile range [IQR], 30–52.5 years). Among patients with available information on disease extent (n = 48), 41.7% (n = 20) had proctitis, 25.0% (n = 12) had left-sided colitis, and 33.3% (n = 16) had pancolitis. Information on disease extent was unavailable in 9.4% of cases (n = 5) (**Figure 1**). In addition, 3% of patients (n = 2) reported a first-degree relative with a history of UC.

During follow-up, 28.3% of patients (n = 15) experienced at least 1 intestinal complication. Gastrointestinal bleeding requiring hospitalization was the most common complication, occurring in 18.9% of cases (n = 10), with a mean time to occurrence of 51 months after diagnosis. Abscesses developed in 5.6% of participants (n = 3), whereas intestinal obstruction was an infrequent event, documented in only 1 patient (1.9%). No cases of perforation or toxic megacolon were identified (**Figure 2**). Surgical management was required in 9.4% of patients (n = 5), all of whom had disease extending beyond the rectum.

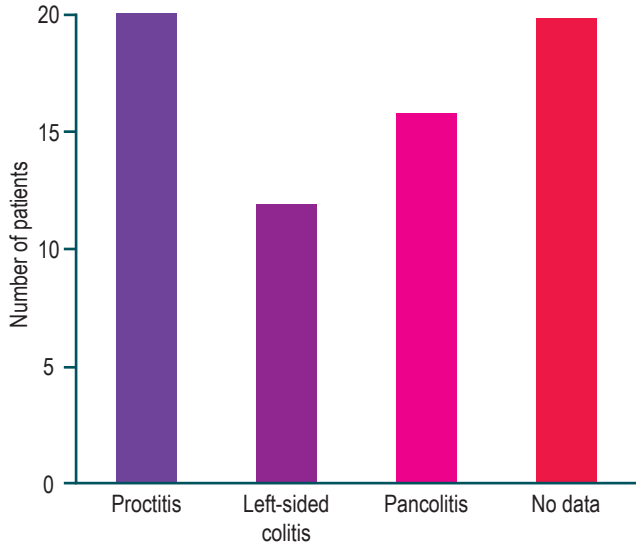


Figure 1. Disease location at diagnosis (n = 53). Image courtesy of the authors.

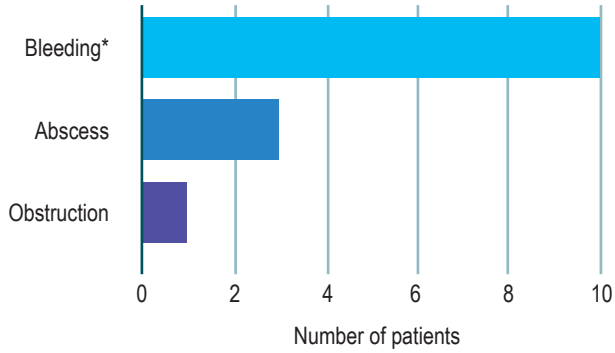


Figure 2. Intestinal complications in patients with ulcerative colitis. *Bleeding requiring hospitalization. Image courtesy of the authors.

Extraintestinal manifestations were identified in 15.1% of patients (n = 8). Some patients had more than 1 manifestation; therefore, frequencies by manifestation were not mutually exclusive. The most frequent manifestations were osteoporosis (7.5%; n = 4) and spondyloarthropathies (7.5%; n = 4), including ankylosing spondylitis (n = 2), sacroiliitis (n = 1), and peripheral polyarthropathy (n = 1). Less frequently, primary sclerosing cholangitis (5.7%; n = 3), uveitis (1.9%; n = 1), and 1 event of thromboembolic disease (1.9%; n = 1) were observed (**Figure 3**). No IBD-associated neoplasms were documented.

Regarding treatment, most patients received aminosalicylates (88.7%; n = 47). Corticosteroid use was documented in 34.0% of patients (n = 18), while azathioprine was used as an immunomodulator in 37.7% (n = 20). Standard combination therapy was administered to 54.7% of participants (n = 29).

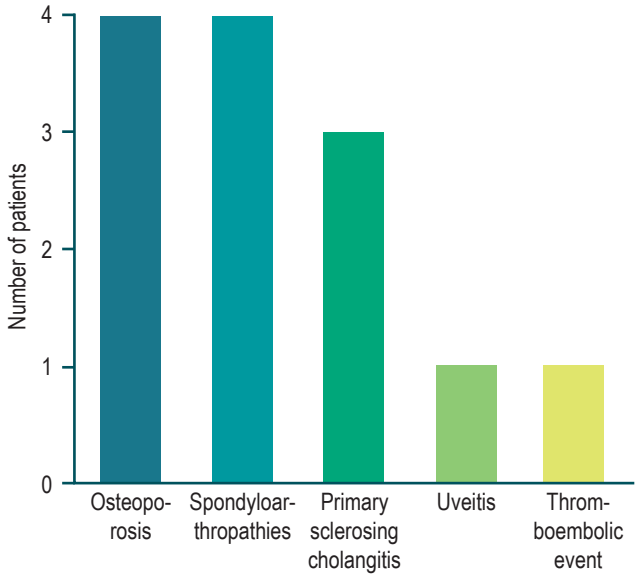


Figure 3. Extraintestinal manifestations in patients with ulcerative colitis. Image courtesy of the authors.

Overall, 30.2% of patients (n = 16) were refractory to standard therapy and required escalation to advanced therapies (**Figure 4**). In this group, advanced therapy was initiated a mean of 46 months after diagnosis. Among the agents used as first-line advanced therapy, vedolizumab was the most frequently used (43.8%), followed by infliximab (31.3%), adalimumab (12.5%), golimumab (6.3%), and upadacitinib (6.3%) (**Figure 5**). Among patients refractory to first-line advanced pharmacologic therapy (n = 5), subsequent treatment strategies included vedolizumab (n = 3) and tofacitinib (n = 2). Discontinuation of advanced therapy due to adverse events was uncommon, occurring in only 1 patient. Among patients treated with biologic therapy, intestinal complications occurred less frequently (18.8%) than among those receiving conventional therapy (30.6%).

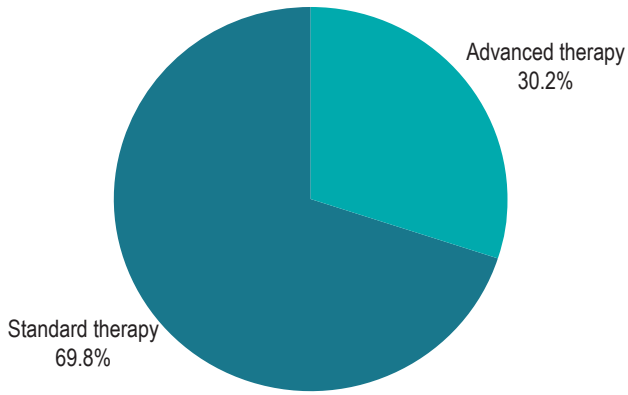


Figure 4. Advanced therapy versus standard therapy (n = 53) Image courtesy of the authors.

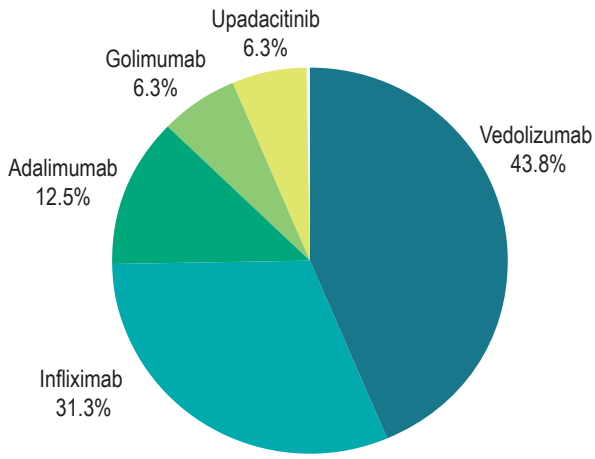


Figure 5. Distribution of first-line advanced therapy among patients refractory to standard therapy (n = 16). Image courtesy of the authors.

DISCUSSION

Our findings describe the clinical course of a case series of patients with UC treated at a referral center in Bogotá. In this setting, gastrointestinal bleeding requiring hospitalization was the most common intestinal complication (18.9%) and occurred relatively late in the disease course (mean, 51 months), whereas the need for surgery was observed in a low but clinically relevant proportion of patients (9.4%). In parallel, extraintestinal manifestations occurred in 15.1% of cases.

These findings provide local real-world evidence and help contextualize patterns of complications and treatment escalation in the Colombian setting. The single-center nature of the study and its referral-center setting should be considered, as these characteristics may have influenced the composition of the cohort by concentrating patients with greater clinical complexity or therapeutic refractoriness. These factors highlight opportunities to optimize care through strategies such as early risk stratification, proactive monitoring, and more timely treatment escalation in patients with persistent disease activity.

In Latin America, available evidence suggests an increasing burden of IBD, with UC predominating over Crohn's disease (CD). In addition, UC incidence rates in the region have been reported at approximately 4–5 per 100,000 population, while prevalence rates, although lower than those reported in North America and Europe, have increased steadily. Similarly, several Chilean series have reported that the development of pancolitis is not only a frequent disease pattern but is also clearly associated with residence in urban areas.

In Colombia, estimates based on SISPRO data and modeling studies place the prevalence of UC at approximately 27–70 per 100,000 population, whereas incidence has been estimated at 0.55–2.33 per 100,000 population per year. The UC-to-CD ratio is approximately 4.5:1, reflecting the predominance of UC.

These data are derived from a study conducted in two countries (Mexico and Colombia)[6] and are consistent with a historical local series from Cartagena, which previously suggested a UC prevalence of 22 per 100,000 population[7]. These findings are also consistent with the study by Juliao-Baños et al., which, using a nationally representative SISPRO database covering approximately 98% of the Colombian adult population, documented a sustained increase in UC incidence and prevalence between 2010 and 2017, with a clear predominance of UC over CD and a greater disease burden in urban areas, particularly in the Andean region[4].

Against this background, our findings are consistent with previously reported patterns in several respects. Surgery was required in 9.4% of patients during follow-up, in line with regional UC rates approaching 10%, while the frequency of extraintestinal manifestations (15.1%) was similar to that reported in national series[7-11]. At the same time, a delayed transition to advanced therapy was observed (approximately 46 months). At the regional level, such delays are generally attributed to gaps in access to care and prolonged healthcare delivery times[6,12]. However, given the characteristics of access to healthcare services in this cohort, the delay is more likely to reflect practice patterns, including prolonged use of conventional treatment regimens and the gradual implementation of treat-to-target approaches, rather than access-related constraints.

In our cohort, proctitis was the most common disease presentation at diagnosis. This pattern has previously been described in several Colombian series, although some variability across centers has been reported[7-11]. Previous studies have demonstrated substantial differences in the distribution of proctitis, left-sided colitis, and pancolitis according to the institutional setting and study period, suggesting that both clinical factors and the timeliness of diagnosis may influence disease extent at presentation[8]. In the present cohort, the referral-center setting may have facilitated the coexistence of patients with stable distal disease and more complex subgroups referred because of therapeutic refractoriness, potentially attenuating expected associations between disease extent and outcomes.

From a therapeutic perspective, the high use of aminosalicylates (88.7%) and azathioprine (37.7%) is consistent with findings from other national cohorts, in which these strategies constitute the mainstay of conventional management. The proportion of patients refractory to standard therapy (30.2%) and the delayed initiation of advanced therapies (mean, 46 months after diagnosis) are particularly noteworthy findings.

Similarly, Juliao-Baños et al. reported relatively low use of biologic therapies in patients with UC compared with those with CD, as well as a mean interval of approximately 5 years from diagnosis to initiation of the first biologic agent in patients with UC. These findings suggest similar patterns of treatment sequencing across different centers in the country[4]. In this setting, the delay may reflect clinical practice patterns, prolonged use of conventional treatment regimens, and gradual implementation of treat-to-target strategies rather than structural barriers to access, as has also been reported in the region[6,12].

Consistent with findings from a regional systematic review, the Latin American population with IBD may exhibit distinct phenotypic characteristics compared with populations from other regions. In our cohort, proctitis predominated at diagnosis. This pattern may be attributable to genetic or environmental differences[12]. Other Colombian cohorts have shown that IBD tends to be diagnosed at older ages than in other Western countries, with a peak incidence during the fourth and fifth decades of life, consistent with the clinical impression of a disease course that differs from that reported in North America and Europe[4,10]. It is important to consider that the referral-center setting of our institution may have influenced the characteristics of the included cases and, consequently, the observed distribution relative to that of the general population.

This study has limitations inherent to its methodological design, primarily related to its descriptive nature, small sample size, and retrospective design. These factors limit causal inference and entail risks of underreporting, incomplete information, and heterogeneity in follow-up and treatment decisions. Furthermore, because this was a single-center case series, the generalizability of the findings is limited. Nevertheless, this study provides real-world evidence from the Colombian setting and contributes to the understanding of the clinical course of UC and the use of therapies in affected patients, thereby providing a basis for future prospective, multicenter studies with larger sample sizes.

CONCLUSIONS

Overall, these findings underscore the importance of longitudinal real-world data from referral centers and their integration with national and regional registries. Such efforts are essential to advancing a more precise understanding of the variability in the clinical course of UC across Latin America and to supporting the development of more context-specific care strategies. Further multicenter, prospective studies will be essential to elucidate the clinical and therapeutic determinants of outcomes and to strengthen evidence-based decision-making in the region.

Ethical considerations

The study was reviewed and approved by the institutional Ethics Committee in accordance with applicable national ethical regulations. The research was conducted in accordance with the principles of the Declaration of Helsinki (2005 revision).

Informed consent

Given the retrospective study design and the exclusive use of secondary data obtained from medical records, the Ethics Committee waived the requirement for individual informed consent.

Conflicts of interest

The authors declare no conflicts of interest related to the content of this manuscript.

Use of artificial intelligence

No artificial intelligence-assisted technology was used in the preparation of this work at any stage of the study design, analysis, or manuscript preparation.

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Author contributions

- Study conception and design: Gustavo Adolfo Reyes-Medina, María Alejandra Gómez-Gutiérrez, Adriana Margarita Rey-Rubiano, Fernando Sierra-Arango.
- Data acquisition: María Alejandra Gómez-Gutiérrez, Zamira Fernanda Gómez-Giraldo, Juan Diego Castro-Córdoba, Miguel Felipe Cárdenas-Mesa, María Carolina Barrios-Domínguez.
- Data analysis and interpretation: Iván Camilo Triana-Avellaneda, Zamira Fernanda Gómez-Giraldo, María Alejandra Gómez-Gutiérrez, Juan Diego Castro-Córdoba, Miguel Felipe Cárdenas-Mesa.
- Manuscript drafting: Gustavo Adolfo Reyes-Medina, María Alejandra Gómez-Gutiérrez, Zamira Fernanda Gómez-Giraldo, Juan Diego Castro-Córdoba, Miguel Felipe Cárdenas-Mesa.
- Critical revision of the manuscript: Gustavo Adolfo Reyes-Medina, Adriana Margarita Rey-Rubiano, Rafael García-Duperly, José De la Hoz-Valle, Iván Camilo Triana-Avellaneda, María Carolina Barrios-Domínguez, Fernando Sierra-Arango.

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