Epidemiological characteristics of patients with Inflammatory bowel disease consulting in the Department of Gastroenterology of the Hospital de Clinicas, San Lorenzo, period january 2019 to december 2021

Características epidemiológicas de los pacientes con enfermedad inflamatoria intestinal que consultan en el Departamento de Gastroenterología del Hospital de Clínicas, San Lorenzo, periodo enero del 2019 a diciembre del 2021

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ABSTRACT

Introduction: Incidence and prevalence of inflammatory bowel disease (IBD) has increased in recent years in several Latin American countries (UC ulcerative colitis, CD Crohn's disease and IC indeterminate colitis). **Materials and methods:** Describe the epidemiological characteristics of IBD patients who report to the Gastroenterology Department at the Clinical Hospital, 2019 to 2021 period. 44 IBD cases were registered, 2 cases were excluded due to the exclusion criteria. **Results:** An average age of 38 years old was recorded, 25 women and 17 men. Most didn't present relevant comorbidities or family history. Consultation frequency due to IBD was 1.92: 81% patients with UC, 14.3% with CD and the remaining 4.7% with IC. The most frequent intestinal manifestations were diarrhea, rectal bleeding and abdominal pain. Among extraintestinal manifestations, the most frequent was primary sclerosing cholangitis. The initial presentation of UC was severe in 44.1% and mild for CD in 33.3%. Recurrence after treatment was 50% (59.5% UC and CD 33.3%) mainly due to medication neglect. **Conclusion:** IBD is more frequent in younger, female patients; the most frequent type being UC. Most UC patients began the disease gravely. Half of the patients had symptom recurrence generally due to medication neglect.

Keywords: Inflammatory bowel disease, Ulcerative Colitis, Crohn's disease, Original article, Epidemiology.

RESUMEN

Introducción: La incidencia y la prevalencia de la enfermedad inflamatoria intestinal (EII) se han incrementado en los últimos años en varios países de Latinoamérica (RCU rectocolitis ulcerativa, EC enfer-
medad de Crohn y CI colitis inespecífica). **Materiales y métodos:** Describir las características epidemiológicas de los pacientes con EII que consultan en el Departamento de Gastroenterología del Hospital de Clínicas, periodo 2019 a 2021. Se encontraron 44 registros de EII, 2 casos fueron excluidos debido a los criterios de exclusión. **Resultados:** Se encontró una edad promedio de 38 años, 25 mujeres y 17 varones. La mayor parte no presenta comorbilidades relevantes ni antecedentes familiares. La frecuencia de consultas por EII fue de 1,92: 81% pacientes con RCU, 14,3% con EC y el restante 4,7% con diagnóstico de CI. Las manifestaciones intestinales más frecuentes fueron la diarrea, rectorragia y dolor abdominal. Entre las manifestaciones extraintestinales la más frecuente fue la colangitis esclerosante primaria. La presentación inicial de la RCU fue severa en 44,1% y leve en EC en 33,3%. La recaída luego del tratamiento fue de 50% (RCU 59,5% y EC 33,3%) debido principalmente al abandono de la medicación. **Conclusión:** la EII es más frecuente en pacientes jóvenes, del sexo femenino; el tipo más frecuente es la RCU. La mayoría de los pacientes con RCU inició la enfermedad de manera grave. En cambio, los pacientes con EC iniciaron de manera leve. La mitad de los paciente recae en los síntomas en general por abandonar tratamiento.

Palabras clave: Enfermedad inflamatoria intestinal, Colitis Ulcerosa, Enfermedad de Crohn, Articulo original, Epidemiologia.

INTRODUCTION AND OBJETIVE

The incidence and prevalence of inflammatory bowel disease (IBD) has increased in recent years in several Latin American

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countries. There is a necessity to spread awareness to gastroenterologists and the general population in order to obtain proper diagnostic and treatment for chronic ulcerative colitis (CUC) and Chron's disease (CD).

There is currently no available data related to inflammatory bowel disease in Paraguay.

That is the reason behind this work, to describe the characteristics of patients with an inflammatory bowel disease (Chron's Disease and Ulcerative Colitis) who report to the Digestive Endoscopy and Gastroenterology Department's external consulting service at the Clinical Hospital.

Inflammatory bowel disease (IBD) principally carries chronic ulcerous colitis (CUC) or ulcerative colitis (UC), Chron's disease (CD) and indeterminate colitis (IC). IBD is chronic and uncurable, and it presents itself with recurrence periods. Its etymology is unknown although it has been appointed as a multifactorial disease due to genetical, immunologic and environmental factors involved in its development [1].

Inflammatory bowel disease unclassified (IBDU) is the most adequate term for a minority of cases in which a defined distinction between UC, CD and other colitis causes after considering the history, endoscopic aspect, multiple mucous biopsies' histopatologies and appropriate radiology [2,3]. Indeterminate colitis is a term reserved for pathologists to describe a colectomy sample with overlapping UC and CD characteristics.[4]

Patients can live with a considerable symptomatic load and high risk of disability despite medical treatment. Physicians must advise and treat patients about the currently available information.

The present work's objectives consist in describing the epidemiological characteristics, determining the percentage of IBD patient consultations, inform the frequency of patients admitted into the hospital and those referred from other centers, informing the urban (industrialized) and rural population percentage affected by the pathology, describing the clinical manifestations (intestinal and extraintestinal), describing the gravity with which the patients present in, correlating the presentation age with the disease's severity. Furthermore, reporting the most frequent histological findings, characterizing the implemented therapeutic interventions, investigating the percentage of patients with cortico-dependency, cortico-resistance, recurrence and the presence of the full study scheme for hidden infections. Also to determine the percentage of patients who require surgical intervention, investigate the associated mortality to the disease for which they report to the Gastroenterology Department at the Clinical Hospital, San Lorenzo, during the January 2019 to December 2021 period.

MATERIALS AND METHODS
2178 files were analyzed, finding 44 records of IBD, during the January 2019 to December 2021 period at the Clinical Hospital, San Lorenzo, Paraguay. 2 patients were excluded due to the exclusion criteria. An observational, descriptive, crosscut, temporarily retrospective type study was performed, with non-probabilistic sampling of consecutive cases.

The focal population are patients with an IBD diagnosis. The accessible population are patients with an IBD diagnosis (UC, CD or IC) who report to consultation from the Digestive Endoscopy and Gastroenterology Department at the Clinical Hospital of San Lorenzo.

Taking into consideration the following inclusion criteria: patients from both sexes, older than 18 years old who report to consultation from the Digestive Endoscopy and Gastroenterology Department at the Clinical Hospital of San Lorenzo, with an IBD diagnosis. Furthermore, patients with incomplete clinical files were excluded.

Information was sourced through a structured format designed specifically for this study and as an information source, clinical files from patients who reported to gastroenterology consultation at the Clinical Hospital.

While performing the present study, bioethical principles were upheld at all times. The mechanism by which the necessary guarantees were given to patients are the following; the Charity principle was upheld by showing the results to the pertinent authorities, for eventual decision making; the Non-Maleficence principle, by not publishing or exposing the results nominally of each patient, safeguarding the data confidentiality present in each patient's clinical history; and the Justice one, by giving every patient the opportunity to participate, regardless of race, sex, religion or political ideologies.

It's worth mentioning that patients whose files were employed for the study, reported to the Hospital on their own free will and voluntary, and were submitted to diagnostic, therapeutic, preventive and follow-up procedures by a physician and gave the corresponding informed consent.

This investigation was performed within the required fulfillments for the Gastroenterology's postgraduate promotion. All expenses that arose during the work's process were self-funded by the author. They themselves claim to have no conflict of interests during the elaboration of the work.

Data was collected personally by the responsible of the investigation through a tutor's supervision, it was loaded into an electronic spread sheet for data recollection through Microsoft Excel's program and processed by SPSS's free statistical analysis software. The data report had univariate reports with mass, frequence and percentage, position, dispersion and shape measurements. The work's presentation was performed through Microsoft Word's text processor.

This work complies with the current normative regarding bioethical investigation and has obtained authorization from the ethical committee at the Clinical Hospital in San Lorenzo, Paraguay.

Authors declare that this article has no personal information which allows patient identification.

The bibliography was obtained through search engines, with later organization according to norms and using the Zotero application.

RESULTS
The included population after the confirmation of IBD histology in this study was of a total of 42 files, of which 81% were patients with an UC diagnosis, 14.3% had a CD one, and the remaining 4.7% had an IC diagnosis.

The gender distribution ratio of the total IBD patients is detailed in the Table; UC was the most frequent in the female gender as it was on the male one. *(see Table 1 and Graph 1)*

Table 1: Patient's demographic data

Gender	IBD type			Total
	RCU	EC	CI	
Female	21	2	2	25
Male	13	4	0	17
Total	34 (81.0%)	6 (14.3%)	2 (4.8%)	42 (100%)

IBD: inflammatory bowel disease, UC: ulcerative colitis, CD: Crohn's disease, IC: indeterminate colitis.

Graph 1. Classification by gender
UC: ulcerative colitis, CD: Crohn's disease, IC: indeterminate colitis.
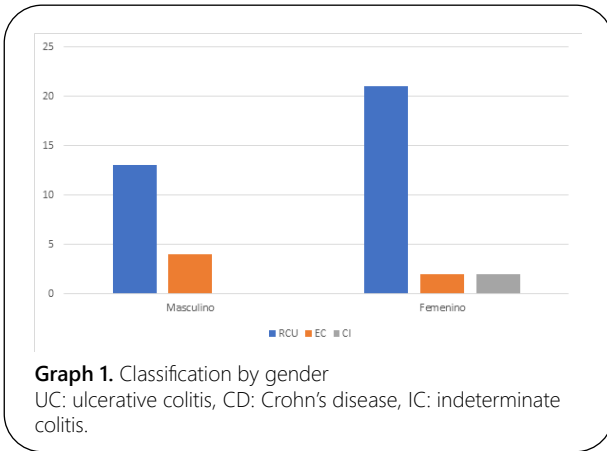
The average age at the time of IBD diagnosis was 38.43 years old *(see Graph 2)*; in UC patients was 39 years old (19-74 years old), in CD was 28 years old (8-59 years old) and in IC was 61 years old (55-66 years old).

Graph 2. IBD patients' age frequency.
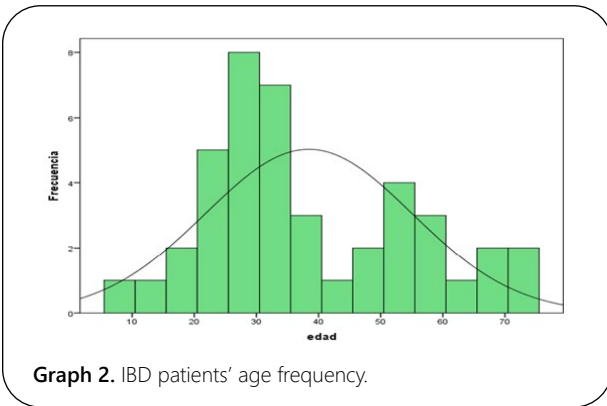
61.9% of patients reported from urban areas (industrialized) and 38.1% from rural areas. 61.9% were patients transferred from other hospital centers, both from rural and urban areas, and 38.1% were patients diagnosed at our hospital center.

Regarding family history referent to autoimmune diseases including IBD, a patient with a family member with the same first-grade pathology (UC). Personal pathological history of other autoimmune diseases was found present in 23.8% of the total population: among these the presence of primary sclerosing cholangitis in non-cirrhotic stage on three occasions and cirrhotic sage in other three *(see Table 2)*

Table 2. Patient associated comorbidities

Associated comorbidities	n	%
No base pathology	23	54.8%
Arterial hypertension	6	14.3%
Type 2 Diabetes mellitus	1	2.4%
Autoimmune pathologies	7	16.7%
Liver cirrhosis	3	7.1%
Other pathologies	2	4.8%
Total	**42**	**100%**

From a clinical point of view, initial manifestations mostly presented some sort of gastrointestinal alteration *(see Table 3)*. The most frequent manifestations were: 97.6% diarrhea, 68.3% rectal bleeding, and 65.9% abdominal pain. Regarding extrain-

testinal manifestations, they were present in 19.1% of patients: 11.9% were primary sclerosing cholangitis, 2.4% of patients had primary sclerosing cholangitis and concomitant orbital fractures, 2.4% with axial arthropathy and 2.4% with orbital fracture. *(see Table 4)*

Table 3. Clinical manifestations present in IBD patients

Intestinal manifestations	n	%
Diarrhea	41	97.6%
Rectal bleeding	28	68.3%
Abdominal pain	27	65.9%
Rectal involvement	15	36.6%
Tenesmus	8	19.5%
Fever	4	9.8%
Anal injuries	4	9.8%
Constipation	3	7.3%
Electrolyte disturbance	3	7.3%
Internal fistulas	2	4.9%
Obstructive symptoms	2	4.9%
Hematochezia	1	2.4%
Abdominal mass	1	2.4%
Ileal compromise	1	2.4%
Toxic megacolon	1	2.4%
Carcinoma	1	2.4%

Table 4. Extraintestinal manifestation according to IBD type

Extraintestinal manifestations	RCU	EC	CI	Total
Absent	26	6	2	34 (81.0%)
Primary sclerosing cholangitis	5	0	0	5 (11.9%)
Primary sclerosing cholangitis and orbital fracture	1	0	0	1 (2.4%)
Axial arthropathy	1	0	0	1 (2.4%)
Orbital fracture	1	0	0	1 (2.4%)
Total	**34**	**6**	**2**	**42 (100%)**

Regarding the activity classification, UC patients had a Montreal scoring in extension of 8.8% in E1, 23.5% in E2 and 67.7% in E3, the severity sub-scoring was 11.8% in S0, 17.6% in S1, 26.5% in S2 and finally 44.1% in S3. As for endoscopic activity according to the Mayo scoring: 20.6% were Grade 1, 20.6% were Grade 2 and 58.8% were Grade 3 *(see Tables 5-6-7).*

Table 5. Classification according to Montreal's scale for ulcerative colitis (UC). n=34

UC's extension (E)		
Proctitis (E1)	3	8.8%
Left colitis (E2)	8	23.5%
Extensive (E3)	23	67.5%
UC's severity (S)		
Colitis remission (S0)	4	11.8%
Mild colitis (S1)	6	17.6%
Moderate colitis (S2)	9	26.5%
Severe colitis (S3)	15	44.1%

Table 6. Classification according to Truelove-Witts' index for ulcerative colitis. n=34

Truelove-Witts scale		
Inactive	4	11.8%
Mild sprout	6	17.6%
Moderate sprout	9	26.5%
Severe sprout	15	44.1%

Table 7. Classification according to Mayo Clinic's activity index for ulcerative colitis' severeness. n=34

Mayo scale		
Normal	0	0
Mild	7	20.6%
Moderate	7	20.6%
Severe	20	58.8%

The CD patients' scores within the age sub-scoring were 33.3% in A1, 50% in A2 and 16.7% in A3; in extension 50% were L2 and 50% L3. Regarding behavior, 50% were B1, 33.3% were B2 and 16.7% B3. Lastly, perianal scoring was positively identified with P2 (stenosing + perianal fracture) in 33.3%. *(see Tables 8)*

Table 8. Classification according to Montreal's scale for Chron's disease (CD). n=6

Diagnostic age (A)		
A1: younger than 17 years-old	2	33.3%
A2: 17-40 years old	3	50%
A3: older than 40 years old	1	16.7%
Localization (L)		
L1: Terminal ileum	0	0
L2: Colon	3	50%
L3: Ileocolic	3	50%
L4: Upper digestive tract	0	0
Clinical pattern (B)		
B1: Inflammatory	3	50%
B2: Stenosing	2	33.3%
B3: Penetrating, fistulizing, perianal fracture	1	16.7%
P: perianal	2	33.3%

After performing the correlation between the age ranges, inflammatory disease type and presentation's severity; findings regarding UC were the following *(see Table 9)*: 17.6% in the moderate category and 23.5% in the severe one within an age range of 17-40 years-old regarding the age range older than 40 years old, whose distribution was 8.8% moderate and 20.6% severe of the patient total; no records of UC patients before 17 years old.

Table 9. Correlation between the disease's age and severity in UC.

Age	Activity according to Truelove's scale				Total	
	Inactive	Mild	Moderate	Severe	n	%
17-40 years-old	4	4	6	8	22	64.7%
Older than 40 years old	0	2	3	7	12	35.3%
Total n	4	6	9	15	34	100%
%	11.8%	17.6%	26.5%	44.1%		

Regarding CD in the age range younger than 17 years old there was a case with mild activity and other with moderate activity; within the 17-40 years-old range there was a case with remitted activity, other with mild activity and other with severe activity; within the age range older than 40 years old there was a case with remitted activity. *(see Table 10)*

Table 10. Correlation of age and disease's severity in CD.

Age	CD activity index				Total	
	Inactive	Mild	Moderate	Severe	n	%
Older than 17 years old	0	1	1	0	2	33.3%
17-40 years-old	1	1	0	1	3	50%
Older than 40 years old	1	0	0	0	1	16.7%
Total n	2	2	1	1	6	100%
%	33.3%	33.3%	16.7%	16.7%		

After analyzing histological findings, the most frequent one in UC were the presence of chronic lymphoplasmacytic inflammatory lymphoma (97.1%), followed by the presence of cryptitis (79.4%), micro-abscesses (52.9%) and erosions/ulcerations (50%). *(see Table 11)*

Table 11. Most frequent histological findings in UC patients.

Histological finding in UC	n	%
Lymphoplasmacytic lymphoma	33	97.1%
Cryptitis	27	79.4%
Micro-abscesses	18	52.9%
Erosion, ulceration	17	50%
Lymphoid accumulation	15	44.1%
Crypt distortion	12	35.3%
Dysplasia	4	11.8%
Eosinophilia	2	5.9%

The most frequent histological findings in CD patients were: focal irregularity within crypts (83.3%), transmural inflammation (50%) and ulceration (50%). In IC's case the histological findings were chronic inflammatory lymphoma, lymphoid accumulation and erosions. *(see Table 12)*

Table 12. Most frequent histological findings in CD patients.

Histological finding in CD	n	%
Focal irregularity within crypts	5	83.3%
Transmural inflammation	3	50%
Ulceration	3	50%
Increased plasma cells	2	33.3%
Intraepithelial lymphocytes	2	33.3%
Chronic focal inflammation of pyloric glands	1	16.7%
Other findings	2	33.3%

Regarding treatment, pharmacological care in accumulative way was recorded to be given to 90.4% at some point during the disease. Of the UC patients: parenteral corticoid usage was performed in 7 cases, oral corticoid in 20 cases, oral 5-ASA (mesalazine) in 32 cases, mercaptopurine (MCP) or azathioprine (AZA) was used in 11 cases, topical medication was used in 18 cases and 2 cases received biological therapy. In CD patients the use of pharmacological treatment was recorded in 100% of cases, medications were distributed like so: parenteral corticoid in 1 case, oral corticoid in 2, MCP or AZA in 4 cases, oral 5-ASA in 5 cases, topical medication in 2 cases and biological therapy in 2 cases. Patients with IC didn't require pharmacological treatment due to mild symptomatology. *(see Table 13)*

Table 13. Pharmacological treatment recieved by IBD patients

	UC	CD	Total
Pharmacological treatment			
Parenteral corticoid	7	1	8
Oral corticoid	20	2	22
5-ASA	32	5	37
Immunosuppressors	11	4	15
Biological therapy	2	2	4
Topical medication	18	2	20

IBD: inflammatory bowel disease; 5-ASA: mesalazine. 2 patients with UC didn't receive treatment due to forfeiting it, 2 IC cases didn't require medical treatment due to mild symptomatology.

Regarding biological therapy in UC patients presented medicine use in 5.9%, one of them due to corticodependency and axial arthropathy; the second due to azathioprine resistance, in both cases the biologic used was adalimumab. In CD patients 33.4% received biological therapy, one case required infliximab due to the presence of multiple complex fistulas, the remaining case had started biological treatment in another country (Spain) due to corticodependency and complex perianal fistula presence.

According to the IBD type, 50% of cases suffered from disease relapse corresponding to 45.2% of UC and 4.8% of CD patients, most due to forfeiting medication.

Regarding corticodependency, 28.6% with UC and 2.4% with CD presented corticodependency. As for corticoresistance, 7.1% of UC patients is corticoresistant, no patients with CD and

IC were recorded.

Surgical handling was present in 33.3% of CD patients mainly for fistula treatment. In UC patients 11.8% required surgical intervention: one patient due to presenting toxic megacolon (subtotal colectomy + ileostomy + mucous fistula), 1 patient due to presence of dysplasia during histological sampling by control colonoscopy (total colectomy + colorectal anastomosis with ileal reservoir), 1 patient with sigmoid-colon-level stenosis (sigmoidectomy + colon-colonic anastomosis) and 1 patient who was transferred to another hospital center for follow-up had been surgically intervened (total colectomy + colorectal anastomosis with ileal reservoir). In IC's case no surgical interventions were recorded.

Regarding the full scheme's presence of study/vaccination of hidden infections for immunosuppressive or biological therapy start, its presence was recorded in 16.7% of the total, corresponding to 11.9% of UC patients and 4.8% of CD patients. Lastly, no mortality was reported relating to IBD.

DISCUSSION

This IBD register study is the first one performed in the country and carries a big step in trying to determine epidemiologic characteristics, clinical behavior and treatment of Paraguayan IBD patients, as well as trying to determine diagnostic and treatment methods accessible for this group of patients.

IBD's current incidence in North America and Europe is elevated, higher than in the rest of the world, but it has stabilized in recent years. The greatest annual CD incidence can be found in North America (20.2 by 100.000, person/year); while the annual UC incidence is higher in Europe (24.3 by 100.000 per person year)[5].

There are few IBD epidemiologic studies in Latin America. A systemic revision's publication is mentioned where IBD's load in the region is described as important [6]. Despite few publications, some studies have reported a frequence growth for CD as well as UC, despite its low incidence [7]. In a Brazilian region an increase in IBD cases was discovered from 1.53 cases/100.000 citizens to 12.8/100.000 in 25 years [8]. There was a predominance of UC patients over CD in this study, younger than 40 years old, of mixed race and low economical income.

In Chile, two studies have described an increase in IBD cases in the past few years. Simia and cols. describe a sustained increase of cases in a care program for IBD patients at a private hospital center. In a study of 716 IBD patients in Chile 71% were reported with UC, 27% with CD and 2% with IC, with a UC/CD ratio of 2.6:117. This proportion which favors the number of UC cases over CD cases has been generally described in developing regions, where IBD prevalence is low, such as Asia [9], unlike North America and Europe where the UC/CD ratio tends to be 1.

In a study from the National Colombian registry performed by F. Juliano-Baños, the proportion of patients with an UC diagnosis was 78.6%, 15.7% for CD and 5.7% for IC. The UC ratio with CD was of 5:1. When performing a comparison between described populations in our study, similar results were yielded. In an Egyptian study performed by K.A. El-Atrebia, the proportion of patients with an UC diagnosis was 88%, 12% for CD and an average age of 35 years old [10].

In a study performed in Peru by Juan Paredes Méndez and collaborators, they studied the registering of 105 IBD patients (average age of 53.02 years old), with 77% of them having ulcerative colitis (UC) and 23% having Chorn's disease (CD).

This study's findings match the ones found in studies performed in developing regions, the frequency of IBD-caused con-

sultations in our service was 1.92% and there is a predominance of a 5.6/1 ratio in favor of UC, affecting mostly young patients under 40 years old (38.4 average)[11] mainly from industrialized areas which makes up 69.1% of this study's patients. However, we still don't posses national data that allow to know the incidence and prevalence of IBD in our country; having this data would be transcendent due to the greater industrialization and changes in life style that happen in the present day.

In our study, only one patient, only one patient had family history corresponding to 2.4%, in the Peruvian study a 1.9% of IBD patients had family history (2.4% UC and none CD); in contrast, in the Chilean study family records were observed in 12% and 10% of patients diagnosed with UC and CD respectively, this difference may be due to the work being performed in Chile having a greater number of studied patients.

Clinical characteristics' analysis revealed that the most frequent symptoms were diarrhea, rectal bleeding and abdominal pain, similar data to the Peruvian study. While CD predominant symptoms were bleeding and abdominal pain (66.6%), followed by weight loss. Extraintestinal manifestations were present in 11.9% of cases, 2.4% of patients with primary sclerosing cholangitis and concomitant orbital fracture, 2.4% with axial arthropathy and 2.4% with orbital fracture. These findings are different from those found in other regional studies; in the Chilean study the most frequent extraintestinal manifestation were joint symptoms, with frequences of 31% and 44% in UC and CD patients., respectively. Furthermore, the average extraintestinal manifestations in both IBD were 21.9% in the Peruvian study where joint symptoms were also the most frequent (87%), these numbers are similar to Colombian studies (27.7%). This difference regarding the most frequent extraintestinal manifestation type with hepatic affections may be due to our hospital center corresponding to the biggest reference center for hepatic pathologies and UC systematic search in primary sclerosing cholangitis patients.

Anatomic localization of UC patients in this study was 8.8% proctitis, 23.5% left colitis and 67.6% extensive colitis; this data are similar to the Peruvian study where the patients presented the following endoscopic distribution for UC, 14 patients (17.2%) presented proctitis, 29 (35.8%) left colitis, and 38 (47%) extensive colitis; and to the previously mentioned Chilean study in which UC patients mostly presented extensive colitis in 50%, followed by proctitis in 28% and left colitis in 22%. In the Colombian study the anatomic localization distribution of UC patients was 30.7% proctitis, 35.7% left colitis and 33.5% extensive colitis.

Anatomic localization of CD in this study was 50% colonic and 50% ileo-colonic, there were no patients with ileal nor upper digestive tract affectations. This data is similar to that observed in the Chilean study where the predominant distribution was colonic affectation with 55% and ileo-colonic with 28%, followed by ileal affectation with 27% and upper digestive tract affectations in 3%. In the Peruvian study the anatomic localization of CD was 54% colonic, 25% ileo-colonic and none for the upper digestive tract. However, the Colombian study shows a high percentage of patients with ileal compromise, compared to other results, CD's anatomic localization in this study was 46.5% ileal, 20.0% colonic, 22.0% ileo-colonic.

Regarding CD's phenotype or behavior, the inflammatory pattern predominates with 50%, followed by stenosing pattern with 33.3% and penetrating with 16.7%; we had 33.3% cases of stenosis and perianal affectation. This data is similar to that found in the Peruvian study where there was 54.2% inflammatory behavior, 25% stenosing and 20.8% penetrating; there was predominant perianal affectation associated to the stenosing type, although in

16.6% lesser percentage. In the Colombian study CD's behavior was 53.9% inflammatory, 34.0% stenosing and 12.1% penetrating. In 9.8% of patients fistulizing perianal compromise was found. The Chilean study reported similar relations to CD's behavior, inflammatory behavior was predominant in CD (80%). Stenosing and penetrating behavior was observed in 10% and 9% of patients, respectively, as well as perianal disease in 28% of CD's patients.

Regarding treatment it's important to highlight that medical treatment for IBD in our service has changed in the past few years, which explains the ample use of 5-ASA and corticoids seen in the first years' records of the study, as for induction as much as for maintenance. Our experience with biological drugs in both types of IBD is yet lacking; biologic ones started being increasingly available from the end of 2020 towards the beginning of 2021, the cases who started biological ones in our hospital center correspond only to those years.

IBD treatment's analysis revealed that within accumulated treatment the mesalazine was the most employed drug during 88% of UC's treatment, followed by oral corticoids, topical medication and immunosuppressants (azathioprine). Mesalazine was used less frequently for CD, although in high percentage of 83%, immunosuppressants came second in frequency order and were used in larger proportion for UC (66% vs 32%). The use of mesalazine for CD is controversial, although we consider it was frequently used in our study due to colonic affectation in all cases. On the other hand, according to the latest clinical guides, the use of immunosuppressant and biological therapies are significantly larger in CD patients compared to UC patients, as observed in the present study. In the studied group of the present work, the use of biological therapy during UC (5.9% n:2) and CD (33.4% n:2) treatment was similar to the reports of other Latin American countries (17.22); however, lesser in comparison to an Egyptian study [12], in which biological treatment was prescribed to 15.4% of UC patients and 20.8% of CD patients, while other studies report a larger prescription of biological treatments for CD rather than for UC. Likewise, it was lesser in comparison to a study performed in USA, in which 43% of UC patients and 61% of CD patients started with biological ones. This may be explained by the aforementioned argument referent to our availability and also mention the greater tendency to use biologics as first-line therapy.

In this study 5.9% of patients underwent biological therapy with adalimumab (3 patients) and infliximab (1 patient).

The surgery percentage in CD and UC patients was 33.3% and 11.8%, respectively; in CD's case it was fistula presence.

The greatest indicators of surgical treatment in UC were complications (toxic megacolon and sampling dysplasia); these findings are consistent with the ones from the Chilean study 38% for CD and 13% after 5 years; in the Peruvian study surgical treatment for CD was 27.6% and 6.7% for UC. Particularly, the early use of immunomodulators and biological therapy during the disease's course could reduce the surgery risk, particularly to patients who achieve mucous' cicatrization [13].

As limitation of the present study we can cite that the time period employed for analysis was affected by the COVID-19 pandemic which could've caused a certain bias; furthermore, the ones inherent to a retrospective study, we must also mention that it's a study from a single hospital center and included only patients who reported by external consultation, patients who were being followed-up in our center who had been diagnosed before or after the study's active period were not included. Most patients were transferred, which may imply a bias, and in some cases the initial treatment was not the proper one. It's worth noting the selfsame limitations for accessing diagnostic procedures (E.g.: fecal calpro-

tectin was not presently accessible hence it wasn't included in the study). Nevertheless, it corresponds to a first report and will be of great use as reference of future studies to be performed.

CONCLUSION

In this study, we found that intestinal inflammatory disease is more frequent in young patients (average age: 38.43 years old), of the female sex; the most frequent type is UC. Most don't present relevant comorbidities nor family records. Consultation frequency for IBD was 1.92%.

Greater frequency was found in patients transferred from other hospital centers rather than those diagnosed in our department: 26 cases vs 16 cases.

The percentage of patients from urban and rural areas was 61.9% vs 38.1%.

The most frequent intestinal manifestations were diarrhea, rectal bleeding and abdominal pain. Among extraintestinal manifestations the most frequent one was primary sclerosing cholangitis. Most UC patients started the disease severely. In contrast, CD patients start it mildly.

When correlating age to the UC's severity there was greater severe starting presentation frequency in younger ages and in CD greater presentation severity was registered within the middle age range (17-40 years old).

The most frequent histological findings in UC were chronic inflammatory lymphoplasmacytic lymphoma, cryptitis and erosions/ulcerations. In CD the most frequent findings were focal irregularity within crypts, transmural inflammation and ulcerations.

Therapeutic interventions were mostly performed accumulatively, and the most frequent medications employed for UC were mesalazine and oral corticoids; for CD they were mesalazine and immunosuppressants.

Corticodependency percentage was 31% (UC: 28.6% CD 2.4%), corticoresistance was 7.1% (UC: 7.1%) and recurrence happened in 50% (59.9% of UC patients and 33.3% of CD patients) mainly due to forfeiting medication. 83.3% of IBD patients didn't present a vaccination/study scheme for hidden infections before starting or eventually starting immunosuppressant/biological therapy.

16.7% of IBD patients required surgical intervention related to the intestinal inflammatory pathology (33.3% of CD patients and 14.7% of UC patients).

No deaths were registered related to the intestinal inflammatory pathology during the analyzed period.

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