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Clinical and Endoscopic Profile of Inflammatory Bowel Disease in a Tertiary Care Hospital

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ABSTRACT

***Objective*:** We aim to study the clinical profile of inflammatory bowel disease patients in a tertiary care hospital of Karnataka.

***Materials and Methods*:** We retrospectively analysed the clinical profiles of IBD patients who had presented to Department of Gastroenterology over a period of four years from January 2015 to January 2019. Demographic profile, clinical and endoscopic findings along with management and complications were taken into consideration.

Results and Discussion: Of the 143 patients, there were 126(88.1%) patients with ulcerative colitis (UC), 6(4.2%) with Crohn's disease (CD) and 11(7.7 %) with Inflammatory bowel disease unclassified (IBDU). Chronic diarrhoea (77.8%) and blood in stools (75.4%) were common in UC, where as abdominal pain (50%) was common in CD. E2 (57.1%) was more common in UC, there were equal number of L2 (50%) and L3 (50%) in CD. Left sided colon involvement (81.8%) was common in IBDU. Extra intestinal manifestations were noted in CD (66.6%), IBDU (54.5%) and UC (53.3%). Most of the patients had moderate disease activity and responded well to pharmacotherapy.

***Conclusion*:** In our study, we found that IBD was common in rural population of India and UC was more common than CD.

Keywords: Colonoscopy, Colitis, Diarrhoea, Inflammatory bowel disease

INTRODUCTION

IBD is a chronic, idiopathic inflammatory condition, which involves an immune reaction of the body against its own gastrointestinal tract.[1] IBD encompasses three types of intestinal diseases: Ulcerative Colitis (UC), Crohns Disease (CD) and Inflammatory Bowel Disease Undifferentiated (IBDU).[2] The pathogenesis of IBD is poorly understood, despite recent advances.[3,4.] IBD is characterized by exacerbations and remissions, the reason for the same has been postulated to arise from complex interactions between intestinal microbiota, an altered intestinal immune response, and environmental factors in a genetically susceptible host.[5]

IBD as a disease has a changing profile; hence there has always been a greater interest in assessing epidemiological picture of the disease. Epidemiological assessment serves to know the magnitude of the problem on community, to infer aetiology of the disease and to understand disease specific triggers, treatment responses, flares and deaths.

Several epidemiological studies done previously showed an increasing trend of incidence of IBD in the world.[1, 6] In an epidemiological research done it has been estimated that about 4 million people worldwide have either UC or CD, and there were 1.4 million of these cases are in the United States.[7] Recent studies have shown that the incidence of CD and UC is as high as 20 and 24 cases per 100,000 person-years respectively.[8] The incidence and prevalence rates of IBD varies with geographical location and ethnicity. Previously conducted studies have concluded that the incidence of UC among migrant South Asians is higher than that of Europeans, suggesting that South Asians are genetically predisposed to UC.[6]. Studies show that UC is more common than CD, with UC/CD ratio 8:1.[9] In 1939, Chopra et al first reported 120 cases of idiopathic colitis from Calcutta.[10] Khosla et al in 1986 reported high incidence and prevalence of UC in a population based study from North India.[11] In a large population based screening study of ulcerative colitis from India done by Ajit Sood et al found an incidence of $6.02/10^5$ per year and a crude prevalence rate of $44.3/10^5$ inhabitants[12].

There is scarce data regarding IBD patients in southern India. Hence we undertook this study to analyse the epidemiological profile, clinical presentation, endoscopic appearance and the response to treatment in patients with IBD.

MATERIALS AND METHODS

Ethics Statement - This study was performed according to the principles of the Declaration of Helsinki. The study protocol was approved by the Institutional Ethical Committee of JSS Academy of Higher Education and research (IEC Registration ECR/387/Inst/KA/2013/RR 19, NABH Accreditation Certificate no. EC-CT-2018-0018), DCGI registered, NABH accredited. (Approval Identification Code: JSSMC/IEC/090620/20 NCT/2020-21), (Date of approval 12/6/2020). All participants have given a formal written informed consent for being included in the study.

Research design – A retrospective study of all patients with IBD who had presented to our tertiary care hospital from 1st January 2015 to 1st January 2019 were included. 143 patients with IBD were analysed. Among them 126 patients had UC, 6 had CD and 11 had IBDU. Diagnosis of IBD was made on clinical symptoms, endoscopic and histological findings. If there were overlapping features of UC and CD, then a diagnosis of IBDU was considered. Medical records and hospital health information system was used to retrieve the data of the patients. Patients were contacted over telephone and data regarding medications and general wellbeing was recorded. Socioeconomic status of the patient was calculated using Modified Kuppuswamy classification. Montreal classification was used to assess extent and severity of UC . Montreal classification was used to classify patients with CD and the severity of the disease was assessed by Harvey Bradshaw index Histopathological evaluation of disease activity of UC patients was done using Nancy histological index.

Statistical analysis- Data analyses was done using SPSS Inc software, version 22.0; Chicago. Descriptive statistics such as mean and standard deviation (SD) for continuous variables, frequencies and percentages were calculated for categorical Variables. Associations between Variables were analyzed by using Chi-Square test for categorical Variables. Level of significance was set at 0.05.

RESULTS

A total of 143 patients of IBD were analysed. There were 126 (88.1%) patients with UC, 6 (4.2%) CD and 11(7.7%) IBDU.

The age group ranged from 16 to 85 years. Mean age group of patients with UC was (40.51+/- 15.46 years), CD (43.86 +/-16.66 years) and IBDU (35.18+/-12.03 years). Majority of the UC cases (90 cases- 71.4%) were below 50 years. Four cases (66.6%) of CD and 10 (90.9%) of IBDU were below 50 years. The overall male to female ratio was 1.38: 1. There was a male preponderance in UC (54%) and IBDU (81.8%). All cases of CD in the study were males. Majority of the people with UC (88.8%), CD (66.6 %) and IBDU (54.54%) were from rural background

Using BMI classification for Asians, among UC, 79 patients (62.6%) had normal BMI, 29 (23.01%) were underweight and 18 (14.2%) were overweight. Among CD, 4 patients (66.6%) had normal BMI, 1(16.66%) was underweight and 1 (16.66%) was overweight. Among IBDU, 6 patients (54.5%) had

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normal BMI, 2(18.18%) were underweight and 3(27.27%) were overweight.

According to Modified Kuppuswamy scale, majority of the people in the study (39.8%) belonged to lower middle class. Among UC 41.2% belonged to lower middle class. Among the patients in IBDU group, 36.36% belonged to upper class. In CD, there was equal number of patients from lower middle class, upper class and upper middle class (33.3%).

Smoking (UC-22.2%, IBDU- 9.1%), alcohol consumption (UC-18.3%, CD- 16.7%, IBDU- 9.1%), use of tobacco (UC 7.1% IBDU- 9.1%) were not significantly associated with the disease process and there was no statistical significance for the same in our study. None of our CD patients were smokers. Use of NSAIDs in the preceding 3 months (UC-16.7%, CD 50%, IBDU-36.4%) was also not significantly associated with the disease process.

Table 1 shows different presenting complaints of the patients in our study in UC, CD and IBDU.

Among patients with UC, extent (E) and severity (S) of the disease was graded according to Montreal classification. E1 (Proctosigmoiditis) disease was seen in 31 (24.6%), E2 (Left sided colitis) in 72 (57.14%) E3 (Pancolitis) was seen in 23 (18.2%) patients. S1 disease was seen in 11 (8.7%), S2 in 70 (55.5%), and S3 in 45 (35.7%) patients. Histopathological evaluation of disease activity of UC patients was done using Nancy histological index which revealed mild UC activity in 11(8.7%), moderate in 70(55.5%) and severe in 45 (35.7%) patients

Among CD, majority of the patients were above the age group of 40 years, majority of the cases were involving the colon and all of the cases were non stricturing and non-penetrating. As per Harvey Bradshaw index 60% had moderate and 22% had mild disease activity, while 18% were in remission.

Table 2 shows the Montreal classification of CD patients in our study.

Among the IBDU patients, 9 (81.8%) had left side and 2 (18.18%) had right colon involvement.

In our study, all patients with UC have received 5-ASA(5- Aminosalicylic acid) as a part of treatment, 27(21.4%) have received mesalamine enema. 75 (59.5%) achieved remission with 5-ASA. 45 patients (35.7%) with UC required 5-ASA and steroids, 6(4.76%) required 5-ASA, steroids and azathioprine. Among CD all patients received 5-ASA, 5 (83.3%) improved with 5-ASA and 1 (16.66%) required azathioprine. Among IBDU all patient received mesalamine.

All patients were available for follow up. Retrospectively analysing last follow up date of patients with IBD, majority of the patients of UC (73.7%), CD (83.3%), and IBDU (90.9 %) had their last follow up date within 1 year from the date of closure of the study.

Table 3 summarises non compliance to medications, disease flare, complications and surgical management for patients with inflammatory bowel disease in our study

Table 4 summarises extra intestinal manifestations of patients with inflammatory bowel disease in our study

DISCUSSION

UC was the most common type of IBD with proportion of UC to CD being 21:1 in our study which was in conjunction with other studies.[3,13,14]. In a study by Makaria et al the ratio of UC to CD was 1.82:1.[15] These studies suggest that the prevalence of CD was less compared to UC. There were 7.6% cases of IBDU in the current study, which is similar to a study by Zhou et al.[2]

Our study was in line with other studies done previously with peak incidence of IBD among young adults.[1, 13]. Majority of the patients with UC (24.6%) were in the age group 21-30 years with mean age being 40.51 +/- 15.46 which was similar to study done by Makharia et al [15]. Maximum numbers of patients with CD in the current study were in the age group 41-50 years (33.7%). The mean age of the patients with CD was 43.83+/- 16.66 years. This was found to be higher compared the study done by Das et al where the mean age was 33.2+/-13.6 years.[16] The mean age of patients with IBDU in the current study was 40.51+/-15.46 which was in concurrence with a study done by Zhou N et al.[2] where the mean age was 40.22 years. Our finding was in contrary with other study where they have showed a female preponderance among IBD patients.[1] In the current study, average BMI of patients with IBD was 21.36 kg/m2, which was in concurrence with a study done

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by Ghoshal et al.[17] where the average BMI was 19.8 kg/m2.

Most of the patients in our study were on mixed diet (53.1%). Among patients with UC, 54% patients had a mixed diet. In a study done by Gunishetty et al.[18], 93% of UC patients were on mixed diet. Majority of the people (122 patients -85%) in our study were of rural background. It is known that smoking is associated with aetiology of IBD, with increased incidence of CD in smokers [19] and smoking being a protective factor in patients with UC [20.] In the current study there were 28 smokers (22.22%) among UC patients, which is in contrast to study done by Russel et al and Gunishetty et al [18] where there were 14 % and 5% smokers among UC patients respectively. In the current study there were no smokers among CD group, which is in contrast to study done by Russel et al, [21] where there were 27% smokers among CD group. This finding in our study is in contrary to the popular notion which states that smoking is associated with decreased risk of UC and increased risk of CD.

There were 16.7% patients of UC and 50% of CD with history of NSAIDS use in preceding 3 months in our study, which was lower in UC (19%) and higher in CD(30%) as reported by Bernstein et al.[9]. In another study done by Ozin et al [22] 33% of patients with CD were NSAID users.

In the current study, alcohol consumption among UC (18.3%) and CD (16.7%) was similar to study done by Makharia et al, UC(13%) and CD(12%).[15] Gunisetty et al reported alcohol use in 29% patients of UC.[18]

Ulcerative Colitis

The common intestinal manifestations of IBD were abdominal pain, chronic diarrhea with or without rectal blood and mucus in faeces.[23] In the current study among patients with UC diarrhea(77.8%), blood in stools(75.4%), abdominal pain(39.7%), mucus(31.7%), weight loss(24.6%) and fever(2.4%) were the common symptoms. In the study done by Makharia et al diarrhea(82%), blood in stools(86%), abdominal pain(67%), mucus(75%), weight loss(62%) and fever(22%) were noticed.[15]

In our study E1 was seen in 8.7%, E2 in 55.5% and E3 in 35.7%. There were maximum number of cases with E2 followed by E3 which was in lines with a study done by Sood et al [24] where E1 was seen in 25%, E2 in 47% and E3 in 27%. However this was in contrary with other studies done previously where ulcerative proctitis was the more common type of presentation.[13,34]

In our study 9 patients (7.1%) of UC, were non-compliant to the medications, 19 (15.1%) had a disease flare. This was less compared to a study done by Makharia et al where 47% patients had disease flare.[15]

In our study we have found that the overall incidence of extra intestinal manifestations (EIM) in IBD was 56.6% (UC-56.3%, CD-66.6%, IBDU-54.54%). Our study was in lines with studies done previously where they have found EIM incidence more common in CD than UC [25.] Our study is in lines with the study by Makharia et al where EIMs were present in 50.6% of UC patients.[15] In an another study by Singh B et al, the incidence of EIMs among UC patients were 33.2% which was less compared to our study.[26] Kochhar R et al reported EIMs in 34.7% patients of UC and musculoskeletal manifestations were most common followed by ocular manifestations (8%).[27] In our study we have found that the overall incidence of articular manifestations in IBD was 46.8%(UC-48.4%, CD-50%, IBDU-27.2%). Our study was in lines with studies done previously where they have found arthritis was more prevalent EIM among IBD [28, 29] Most common EIM in our study was peripheral arthralgia (27.77%) and there was central arthralgia in 20.63%. In the study by Bandyopadhyay et al arthritis was present in 21% and episcleritis in 14% patients.[30] Makharia et al observed arthralgia in 33% patients.[15]

Crohn's Disease

In the current study, predominant age group of CD was between 41-50 years (33.3%). Diarrhoea, abdominal pain and weight loss was present in 50%, blood in stools and mucous was present in 16.7% patients. In a study by Makharia et al.[15], patients with CD had diarrhea (64.6%), abdominal pain (74.9%), weight loss (66.1%) as commonly reported symptoms. Our study was in conjunction with a study done by Ghoshal et al who reported bloody diarrhea (68%), abdominal pain(62%) and weight loss(57%).[17]

According to Vienna classification, [31] in the current study, there were 2 patients in A1 (33.3%) group and

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4 in A2 (66.6%), which was in contrast to study done by Santana et al [31] where there were A1 (70%) and A2 (30%) patients. As per Montreal classification, in the current study, there were 33% patients in A2 group and 66% in A3. 50% had L2 and 50% had L3 disease. All patients had B1 disease behaviour. In our study, among patients with CD, the most common location of the disease, was ileocolonic area which was similar to previous literatures.[13,32] In the study done by Santana et al as per Vienna classification 19.1% were classified L1, 21% as L2, 38% as L3 and 21% as L4. According to the disease behaviour, 47% were classified as B3, 13% as B2 and 40% as B1 [33]. In our study, most common type of behavioural presentation of CD patient was non-stenosing/non-penetrating CD which is consistent with a study done by Souza et al.[34.]

There were no cases of drug non-compliance among patients with CD and 2 cases (33.3%) of CD had a flare, compared to a study done by Makharia et al where 69% patients of CD had flares.[15]

Harvey Bradshaw Index was used to describe the severity of CD. In our study, 60% had moderate and 22 % had mild disease, while 18% were in remission. In a study done by Plevy et al, 66% were in remission, 17% had mild and 16% had moderate/severe disease.[33] In a study by Bandyopadhyay et al 24% patients had arthritis, 13% had ocular manifestations.[30] In study by Makharia et al arthralgias were present in 26% patients [15] In the present study 66.6% of CD patients had EIM. Most common EIM was central arthralgia (33.3%), there was peripheral arthralgia in 16.6%. In a study by Singh B et al EIMs were seen in 38.3% of CD patients, peripheral arthropathy was more common in CD than in UC.[26]

Inflammatory Bowel Disease Undifferentiated

In the current study, among patients with IBDU there was history of diarrhea in all patients (100%), blood in stools in 72.7%, abdominal pain in 36.4% and mucus in stools in 18.2% patients. This was in agreement with study by Zhou N et al and Bermejo et al where the most common presenting symptoms of IBDU patients were abdominal pain and diarrhea.[2,35]

In the current study, there was left sided colon involvement among 9 (81.8%) patients and 2 (18.2%) had right sided involvement. In a study by Zhou et al, among 27 patients, 15% had primarily left sided and right sided involvement respectively, 11% had pancolonic involvement, 52% had small bowel involvement and 7% had extensive involvement.[2] In study by Bermejo et al, 46% had extensive colitis, 29% had distal colitis, 8% had colitis with rectal sparing and 17% had variable location.[60] There were no cases of drug non-compliance among patients with IBDU in the current study and 3 cases (27.3%) of IBDU had a flare

Extra-intestinal manifestations among IBDU patients were present in 54.54% in the present study. Most common EIM among patients with IBDU was episcleritis (27.27%) followed by peripheral arthralgia (18.18%). Zhou et al et al reported arthralgia in 11%.[2]

IBD as a disease has low mortality rates, high morbidity, and unpredictable clinical complications that may compromise the patients' social and personal performance. Three deaths were recorded in the study (2.09%); one death was in the hospital due to pulmonary embolism, two deaths occurred at patients respective homes and cause of death could not be ascertained. All three patients had UC, there were no deaths recorded among patients with CD or IBDU. Our study was in line with an another study where the mortality was 1.03%.[36]

This paper is a brief insight to the profile of IBD in a tertiary hospital highlighting the clinical features, demographics and colonoscopy findings. The limitation of this study was there were limited patients of CD and IBDU compared to UC patients.

CONCLUSION

We have drawn a conclusion that IBD is commonly encountered in daily practise with UC being more common form, CD is relatively rare. A strong differential of IBD should be kept in mind for every patient who presents with chronic diarrhea, abdominal pain, blood and mucous in stools, weight loss, anaemia and hypoalbuminemia.

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Dr. Nandeesh and Dr Vijayakumar have also contributed in the manuscript work.

REFERENCES

1. Thukkani N, Williams JD, Sonnenber A. Epidemiologic characteristics of patients with inflammatory bowel disease undergoing colonoscopy. Inflamm Bowel Dis. 2011; 17:1333–7.
2. Zhou N, Chen W, Chen S, Xu C, Li Y. Inflammatory bowel disease unclassified.J Zhejiang Univ-Sci B (Biomed & Biotechnol). 2011; 12(4): 280-6.
3. Esmat S, El Nady M, Elfekki M, et al. Epidemiological and clinical characteristics of inflammatory bowel diseases in Cairo, Egypt. World J Gastroenterol. 2014; 20(3):814–821.
4. Fiocchi C. Inflammatory bowel disease: etiology and pathogenesis. Gastroenterology. 1998; 115(1):182–205
5. Zhang YZ, Li YY. Inflammatory bowel disease: pathogenesis. World J Gastroenterol 2014; 20:91–99.
6. Yang SK, Loftus EV Jr., Sandborn WJ. Epidemiology of inflammatory bowel disease in Asia. Inflamm Bowel Dis. 2001; 7(3):260-70.
7. Loftus EV. Clinical epidemiology of inflammatory bowel disease: incidence, prevalence, and environmental influences. Gastroenterology. 2004; 126:1504–17.
8. Froklis A, Dieleman LA, Barkema HW, Panaccione R, Ghosh S, Fedorak RN et al. Environment and the Inflammatory Bowel Diseases. Can J Gastroenterol. 2013; 27(3): 18-21.
9. Bernstein CN, Fried M, Krabshuis JH, Cohen H, Eliakim R, Fedail S et al. Inflammatory Bowel Disease: A Global Perspective. WGO Global Guidelines. 2009.
10. Chopra RN, Ray PN. Indian Med Gaz 1939; 74; 65.
11. Khosla SN, Girdhar NK, Lal S, Mishra DS. Epidemiology of ulcerative colitis and select general population of northern India. J Assoc Physicians India 1986; 34:405-7.
12. Sood A, Midha V, Sood N, *et al* Incidence and prevalence of ulcerative colitis in Punjab, North India *Gut* 2003;52:1587-1590.
13. Burisch J, Pedersen N, C˘ ukovic´-C˘ avka S, et al; EpiCom-group. EastWest gradient in the incidence of inflammatory bowel disease in Europe: the ECCO-EpiCom inception cohort. Gut. 2014; 63(4):588–597.
14. Molodecky NA, Soon IS, Rabi DM, Ghali WA, et al. Increasing incidence and prevalence of the inflammatory bowel diseases with time, based on systematic review. Gastroenterology. 2012; 142(1):46–54.
15. Makharia GK, Ramakrishna BS, Abraham P, et al. Survey of inflammatory bowel diseases in India. Indian J Gastroenterol. 2012; 31(6): 299- 306.
16. Das K, Ghoshal UC, Dhali GK, Benjamin J, Ahuja V ,Makharia GK. Crohn's disease in India: a multicenter study from a country where tuberculosis is endemic. Dig Dis Sci. 2008; 54: 469.
17. Ghoshal UC, Shukla A. Malnutrition in inflammatory bowel disease patients in northern India: frequency and factors influencing its development. Tropical Gastroenterol. 2008; 29(2): 95-7
18. Gunisetty S, Tiwari SK, Bardia A, Phanibhushan M, Satti V, Habeeb MA et al. The epidemiology and prevalence of Ulcerative colitis in the South of India. Open J Immunology. 2012; 2(4):144-8.
19. Higuchi LM, Khalili H, Chan AT, Richter JM, Bousvaros A, Fuchs CS. A prospective study of cigarette smoking and the risk of inflammatory bowel disease in women. Am J Gastroenterol. 2012; 107(9):1399–1406.
20. Solberg IC, Lygren I, Jahnsen J, Aadland E, Hoie O, Cvancarova M, Bernklev T. et al. Clinical course during the first 10 years of ulcerative colitis: results from a population-

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based inception cohort (IBSEN Study) Scand J Gastroenterol. 2009; 44(4):431–440.

21. Russel MG, Dorant E, Brummer RJM, Kruus MAV, Muris JW, Bergers JM et al. Appendectomy and the risk of developing ulcerative colitis or Crohn's disease: results of a large case-control study. Gastroenterol. 1997; 113:377-82.
22. Ozin Y, Kilic MZY, Nadir I, Cakal B, Disibeyaz S, Arhan M et al. Clinical features of ulcerative colitis and crohn's disease in Turkey. J Gastrointestin Liver Dis. 2009;18(2): 157-62
23. Cosnes J, Gower-Rousseau C, Seksik P, Cortot A. Epidemiology and natural history of inflammatory bowel diseases. Gastroenterology. 2011; 140(6):1785–1794.
24. Sood A, Midha V, Sood N, Puri S, Kaushal V. Profile of ulcerative colitis in a north Indian hospital. Journal of Indian Academy of Clinical Medicine. 2000; 5(2):124-8.
25. Veloso FT. Extraintestinal manifestations of inflammatory bowel disease: do they influence treatment and outcome? World J Gastroenterol. 2011; 17:2702–7.
26. Singh B, Kedia S, Konijeti G, et al. Extraintestinal manifestations of inflammatory bowel disease and intestinal tuberculosis: Frequency and relation with disease phenotype. Indian J Gastroenterol. 2015; 34(1):43-50.
27. Kochhar R, Mehta SK, Nagi B, Bhatia V, Goenka MK, Malik AK. Extraintestinal Manifestations of Idiopathic Ulcerative Colitis. Indian J Gastroenterol. 1991; Vol 10(3):88-89
28. Roberts H, Rai SN, Pan J, Rao JM, et al. Extraintestinal manifestations of inflammatory bowel disease and the influence of smoking. Digestion. 2014; 90(2):122–129.
29. Delmondes LM, Nunes MO, Azevedo AR, et al. Clinical and Sociodemographic Aspects of Inflammatory Bowel Disease Patients. Gastroenterology Research. 2015 Aug; 8(3-4):207-215.
30. Bandyopadhyaya D, Bandhyopadhyay S, Ghosh P, et al. Extraintestinal manifestations in inflammatory bowel disease: prevalence and predictors in Indian patients. Indian J Gastroenterol. 2015; 34(5):387-94.
31. Santana GO, Souza LR, Azevedo M, et al. Application of Vienna Classification for Crohn's disease to a single centre from Brazil. Arq Gastroenterol. 2008; 45(1):64-8.
32. Tang LY, Rawsthorne P, Bernstein CN. Are perineal and luminal fistulas associated in Crohn's disease? A population-based study. Clin Gastroenterol Hepatol. 2006;4(9):1130–1134.
33. Plevy S, Silverberg MS, Lockton S, et al. Combined serological, genetic, and inflammatory markers differentiate non-IBD, Crohn's disease, and ulcerative colitis Patients. Inflamm Bowel Dis. 2013; 19(6):1139-48.
34. Burisch J, Munkholm P. The epidemiology of inflammatory bowel disease. Scand J Gastroenterol. 2015 Aug; 50 (8):942-51.
35. Bermejo F, Algaba A, Cuno JL, et al. Inflammatory bowel disease unclassified (IBDU) in real practice: prevalence, clinical course and therapy requirements. European Crohn's and Colitis Organisation. Poster presentation: Clinical: Diagnosis and outcome. 2013:P216
36. Christodoulou DK, Katsanos KH, Kogevinas A, et al. Mortality of inflammatory bowel disease in North-West Greece. 6th Mediterranean Medical Congress, Malta 8-10 September 2000 (Abstract P 10-23).

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Table1: Symptoms at onset of inflammatory bowel disease

Symptoms	Total		Ulcerative colitis		Crohns disease		IBDU	
	n=143	%	N= 126	%	N=6	%	n=11	%
Diarrhea	112	78.3	98	77.8	3	50	11	100
Weight loss	34	23.7	31	24.6	0	0	3	50
Blood in stools	104	72	95	75.4	1	16.7	8	72.7
Mucus in stools	43	30.06	40	31.7	1	16.7	2	18.2
Abdominal pain	57	39.8	50	39.7	3	50	4	36.4
Urgency	63	44.05	56	44.4	3	50	4	36.4
Tenesmus	44	30.76	38	30.2	3	50	3	27.3
Fever	3	2.09	3	2.4	0	0	0	0

IBDU= Inflammatory bowel disease undifferentiated

Table 2: Montreal classification of Crohns disease

Variable	n=6 (%)
A1(Age<16 years)	0 (0)
A2(Age 17to 40 years)	2 (33.3)
A3(Age >40 years)	4 (66.6)
L1(Ileum)	None
L2(Colon)	3 (50)
L3(Ileocolic)	3 (50)
L4(isolated upper disease modifier)	0 (0)
B1(Non structuring, non-penetrating)	6 (100)
B2(Stricturing)	0 (0)
B3(Penetrating)	0 (0)
Perianal disease modifier(p)	0 (0)

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Table 3: Disease related complications and management during the course of inflammatory bowel disease

Parameters	Total		Ulcerative colitis		Crohns disease		IBDU	
	n=143	%	n=126	%	n=6	%	n=11	%
Non-compliance to medications	9	6.29	9	7.1	0	0	0	0
Disease flare	24	16.7	19	15.1	2	33.3	3	27.3
Intestinal obstruction	2	1.39	2	1.58	0	0	0	0
Perforation	1	0.69	1	0.8	0	0	0	0
Surgery	2	1.39	2	1.58	0	0	0	0
Death	3	2.09	3	2.38	0	0	0	0

IBDU= Inflammatory bowel disease undifferentiated

Table 4: Extra intestinal manifestations in inflammatory bowel disease

Parameters	Total		Ulcerative colitis		Crohns disease		IBDU	
	n=143	%	n=126	%	n=6	%	n=11	%
Episcleritis	14	9.79	10	7.93	1	16.6	3	27.27
Central arthralgia	29	20.27	26	20.63	2	33.3	1	9.09
Peripheral arthralgia	38	26.57	35	27.77	1	16.6	2	18.18
Colonic malignancy	1	0.69%	1	0.79%	0	0	0	0

IBDU= Inflammatory bowel disease undifferentiated

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