

Clinical Characteristic of Inflammatory Bowel Disease Diagnosed in Kurdistan Center for Gastroenterology and Hepatology (Kcgh) – Asulaimaiyah-Iraqi Kurdistan-Iraq

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ABSTRACT

Background: Inflammatory bowel disease is comprised of two major disorders: ulcerative colitis and Crohn's disease, most patients have distinct features of either Crohn disease or ulcerative colitis, but approximately 5% to 10% have features of both diseases known as indeterminate colitis. The incidence of inflammatory bowel disease varies widely between populations.

Objectives: The aim of the study to identify the clinical characteristic of patients diagnosed as inflammatory bowel disease in KCGH center in Slemani city.

Patients and Methods: This cross-sectional study was conducted in Kurdistan center of gastrointestinal and hepatobiliary disease in Sulaimani city during 16 months from Sep. 2013 to Feb. 2015, during this period we included 74 newly diagnosed patients in whom the diagnosis of UC and CD was confirmed by clinical, laboratory, endoscopic and histological examination, all patients were subjected to full history, clinical examination findings, endoscopic feature and histopathological findings. Data of all patients were entered into statistical package for social sciences software for Windows, version 18.

Results: In total, 74 new cases of IBD [75.7% ulcerative colitis 21.6% Chron's disease, 2.7% indeterminate] were identified during a 16 months period from Sep./2013; mean age 35±14 years, young age groups (20-39 years) were more prevalent, Females (52.7%) were more than males (47.3%), No significant differences were observed between UC patients and Chron's patients regarding age and gender ($p>0.05$), There was a significant association between bleeding per rectum and ulcerative colitis patients ($p<0.001$). Abdominal pain was significantly associated with Chron's patients (0.03). Among ulcerative colitis patients, proctitis was the main type (39.3%) while in patients with Chron's, iliocolonic involvement was predominant (50%).

Conclusions: The rate of Chron's has increased significantly in comparison to other studies done in Iraq and near countries; IBD most commonly present in 20-39 year, unlike most of the western studies there was no second peak in old age group, although the number of elderly was too small in this study, to draw a solid conclusion.

Keywords

Crohn's disease, Ulcerative colitis, Inflammatory bowel disease.

Introduction

Inflammatory bowel disease (IBD) is comprised of two major disorders: ulcerative colitis (UC) and Crohn's disease (CD), most patients have distinct features of either Crohn's disease or ulcerative colitis, but approximately 5% to 10% have features of both diseases (known as indeterminate colitis) [1].

Ulcerative colitis — Ulcerative colitis is a chronic inflammatory condition characterized by relapsing and remitting episodes of inflammation limited to the mucosal layer of the colon. It almost invariably involves the rectum and may extend proximally and continuously to involve other portions of the colon. [1] Crohn's disease — Crohn's disease is characterized by transmural inflammation and by skip lesions. The transmural inflammatory nature of Crohn's disease often leads to fibrosis and obstructive clinical presentations that are not typically seen in ulcerative colitis. The transmural inflammation can also result in sinus tracts that burrow through and penetrate the serosa, giving rise to micro-perforations and fistulae [1,2]. IBD in developing countries like ours had been characterized by the predominance of the occurrence of ulcerative colitis in far excess compared to Crohn's disease but in recent years there have been reports of increased prevalence of Chrons disease in these countries in parallel with westernization of lifestyles specialty dietary habits [3-5]. The aim of the study to identify a clinical characteristic of patients diagnosed as Inflammatory bowel disease (IBD) in KCGH center in Slemani city; clinical subtyping namely UC, CD or IC, gender differences and clinical presentations.

Patient and Methods

This cross-sectional study was done in Kurdistan center of gastrointestinal and hepatobiliary disease (KCGH) in Sulaimani city for 16 months from Sep./ 2013 to Feb./ 2015. During this period 74 patients were diagnosed in whom the diagnosis of UC and CD was confirmed by clinical, laboratory, endoscopic and histologic examination. The patients were subjected to full history, clinical examination findings; questionnaire contains the patient demographic data, clinical feature and family history of IBD. All patients asked about drugs like (NSAIDs, oral contraceptive pill, Antibiotics) that are known to have an association with IBD [18-20,23]; also asked about surgical history like (appendicectomy and other intraabdominal surgery) that are known to have an association with IBD [47]. Data of all patients were entered into a computerized software, and a database was made, then transferred into a statistical package for social sciences (SPSS) software for Windows, version 18, US. Descriptive statistics were presented as mean \pm standard deviation for continuous variables, and as frequencies (number) and percentages for categorical variables. Chi-square was used to compare frequencies and percentages in between any two groups and Fisher's exact test was used if more than 20% expected variables were less than 5. The level of significance of ≤ 0.05 was considered significant. Finally, the results were presented in tables and or figure with an appropriate explanation for each table or figure according to the findings.

Results

A total of seventy-four patients with inflammatory bowel diseases (IBDs) were included in the present study, Histological examination revealed that 75.7% of IBDs patients were Ulcerative Colitis, 21.6% of them were Crohns disease and 2.7% of them were indeterminate colitis. The endoscopic findings of UC revealed that 17 patients had extensive disease, 17 patients had left-sided colitis and 22 patients had proctitis. Endoscopic findings of Crohn's disease revealed that 50% of them were ileocolonic, 37.5% small intestine, 6.3% C. colitis and 6.3% of them perianal disease (Table 1 and Figures 1-3).

Table 1: Histological subtypes and endoscopic findings of IBD.

Variable	No.	%
Histological subtypes		
UC	56	75.7
CD	16	21.6
Indeterminate colitis	2	2.7
Total	74	100.0
Endoscopic findings of UC		
Extensive disease	17	30.4
Lt. side colitis	17	30.4
Proctitis	22	39.3
Total	56	100.0
Endoscopic findings of CD		
Ileocolic	8	50.0
Small intestine	6	37.5
C. colitis	1	6.3
Perianal disease	1	6.3
Total	16	100.0

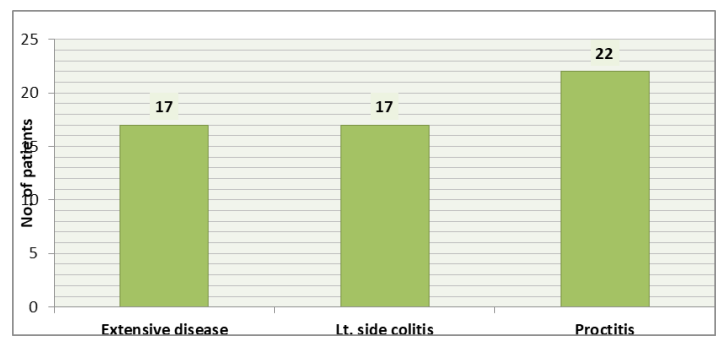


Figure 1: Endoscopic findings of UC patients.

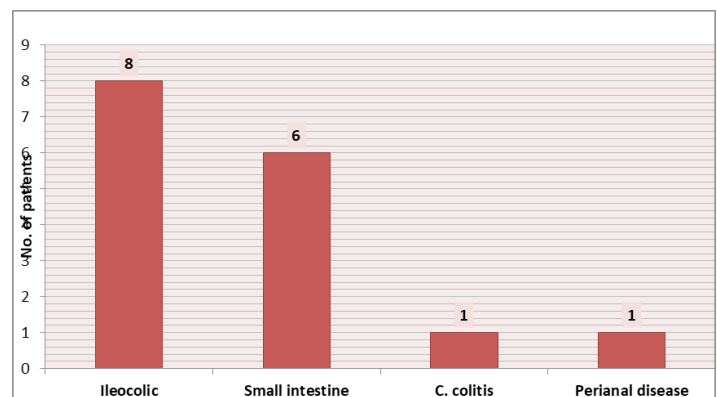


Figure 2: Endoscopic findings of CD.

Mean age (35 ± 14) years, young age groups (20-39 years) were more prevalent. Females (52.7%) were more than males (47.3%). Most IBD patients (95.9%) were Muslims 2 were Christians and one was Yazidi. More than two-thirds of them (75.7%) were Kurdish, 20.3% of them were Arabic and 4.1% of them were Turkish; No significant differences were observed between UC patients and CD patients regarding age, gender, religion and race ($p > 0.05$) (Table 2 and Figures 4 and 5).

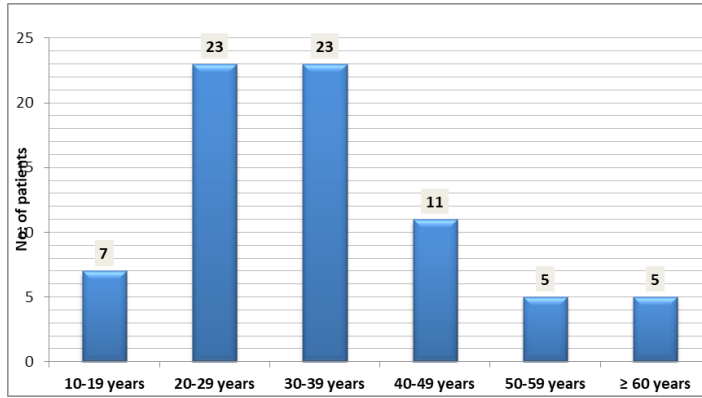


Figure 3: Age distribution among IBD patients.

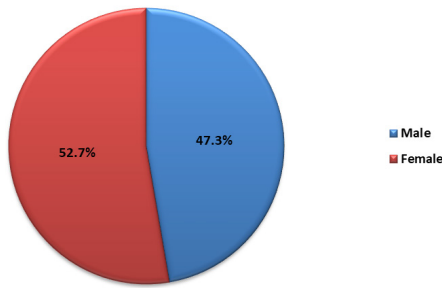


Figure 4: Gender distribution of IBD patients.

Table 2: Distribution of sociodemographic characteristics according to UC and CD.

Variable	UC		CD		χ^2	P
	No.	%	No.	%		
Age						
10-19 years	6	85.7	1	14.3	7.2*	0.1
20-29 years	14	63.6	8	36.4		
30-39 years	17	73.9	6	26.1		
40-49 years	10	100.0	0	-		
50-59 years	5	100.0	0	-		
≥ 60 years	4	80.0	1	20.0		
Gender						
Male	26	76.5	8	23.5	0.06	0.8
Female	30	78.9	8	21.1		
Religion						
Muslim	54	77.1	16	22.9	0.5*	0.7
Christian	1	100.0	0	-		
Yazidi	1	100.0	0	-		
Race						
Kurdish	44	80.0	11	20.0	3.5*	0.1
Arabic	11	78.6	3	21.4		
Turkish	1	33.3	2	66.7		

* Fisher's exact test.

More than two thirds (78.4%) of IBDs patients complained bleeding per rectum, 9 patients had Malena, 54 patients had abdominal pain, 58 patients had diarrhea, 9 patients had constipation, 17 patients had tenesmus, two patients had perianal disease, 3 patients had oral ulcer, 4 patients had vomiting, 33 patients had weight loss, 12 patients had fever and no patient with dysphagia, There was a significant association between bleeding per rectum and UC patients ($p < 0.001$). Abdominal pain was significantly associated with CD patients (0.03). Oral ulcers were significantly associated with CD patients ($p = 0.05$). Vomiting was significantly associated with CD patients ($p < 0.001$). Weight loss was significantly associated with CD patients ($p = 0.03$). Fever was significantly associated with CD patients ($p = 0.01$), (Table 3).

Extra-intestinal involvement was constrained to eye in 4.1% of IBDs patients, vein thrombosis in 2.7%, skin in 5.4%, musculoskeletal in 2.7%, liver in 1.4%, others in 5.4% of them, No significant differences were observed between UC patients and CD patients regarding extra-intestinal involvement of eye, vein thrombosis, skin, musculoskeletal, liver and others ($p > 0.05$), (Table 4).

Table 3: Distribution of symptoms according to UC patients and CD patients.

Variable	UC		CD		χ^2	P
	No.	%	No.	%		
Bleeding per rectum						
Yes	49	87.5	7	12.5	13.7*	<0.001
No	7	43.8	9	56.3		
Malena						
Yes	7	77.8	2	22.2	0.001	0.9
No	49	77.8	14	22.2		
Abdominal pain						
Yes	38	71.7	15	28.3	4.2*	0.03
No	18	94.7	1	5.3		
Diarrhea						
Yes	45	80.4	11	19.6	0.9	0.3
No	11	68.8	5	31.3		
Constipation						
Yes	5	62.5	3	37.5	1.2	0.2
No	51	79.7	13	20.3		
Tenesmus						
Yes	13	81.3	3	18.8	0.1	0.7
No	43	76.8	13	23.2		
Perianal disease						
Yes	1	50.0	1	50.0	0.9	0.3
No	55	78.6	15	21.4		
Oral ulcer						
Yes	1	33.3	2	66.7	3.5*	0.05
No	55	79.7	14	20.3		
Vomiting						
Yes	0	-	4	100.0	14.8	<0.001
No	56	82.4	12	17.6		
Weight loss						
Yes	22	66.7	11	33.3	4.3*	0.03
No	34	87.2	5	12.8		
Fever						
Yes	6	50.0	6	50.0	6.4*	0.01
No	50	83.3	10	16.7		

*Fishers exact test.

Table 4: Distribution of extra-intestinal involvement according to UC & CD.

Variable	UC		CD		χ^2	P
	No.	%	No	%		
Eye						
Yes	3	100.0	0	-	0.8*	0.3
No	53	76.8	16	23.2		
Vein thrombosis						
Yes	2	100.0	0	-	0.5*	0.4
No	54	77.1	16	22.9		
Skin						
Yes	4	100.0	0	-	1.2*	0.2
No	52	76.5	16	23.5		
Musculoskeletal						
Yes	1	50.0	1	50.0	0.9*	0.3
No	55	78.6	15	21.4		
Liver						
Yes	1	100.0	0	-	0.2*	0.5
No	55	77.5	16	22.5		
Others						
Yes	3	75.0	1	25.0	0.01*	0.8
No	53	77.9	15	22.1		

* Fisher's exact test.

The duration of (1-3) months since the first symptom was prevalent among 35.8% of UC patients, durations of <1month, (4-6) months, (7-9) months, (10-12) months and >12months were distributed among 5, 12, 7, 5 and 7 patients, respectively, while duration of > 12 months since the first symptom was prevalent among 50% of CD patients. Only 5 IBDs patients were chronic drug users and only 3 patients had a positive family history of IBDs. Seven patients were smokers, 11 were ex-smokers and 56 patients were non-smokers. Only 3 IBDs patients had a history of appendicitis, 9 patients had a history of other intra-abdominal surgery and 62 patients had no surgery, a significant association was observed between shorter duration since first symptom and UC patients ($p=0.02$). No significant differences were observed between UC patients and CD patients regarding general history ($p>0.05$), (Table 5).

Table 5: Distribution of general history and duration since the first symptom according to UC & CD.

Variable	UC		CD		χ^2	P
	No.	%	No	%		
Duration since first symptom						
<1 month	5	100.0	0	.0	11.2*	0.02
1-3 months	20	83.3	4	16.7		
4-6 months	12	85.7	2	14.3		
7-9 months	7	87.5	1	12.5		
10-12 months	5	83.5	1	16.7		
> 12 months	7	46.7	8	53.3		
Drug history						
Chronic drug user	4	80.0	1	20.0	0.01*	0.9
No chronic drug user	52	77.6	15	22.4		
Family history						
Positive	3	100.0	0	-	0.8*	0.3
Negative	53	76.8	16	23.2		

Smoking					4.9*	0.08
Smoker	4	57.1	3	42.9		
Ex-smoker	11	100.0	0	-		
Non-smoker	41	75.9	13	24.1	4*	0.1
Surgical history						
Appendicectomy	1	33.3	2	66.7		
Other intra-abdominal surgery	8	88.9	1	11.1		
No surgery	47	78.3	13	21.7		

* Fisher's exact test.

Discussions

UC and CD are chronic inflammatory bowel diseases whose pathogenesis and pathologic state remain to be clearly defined. Knowledge of various incidence and prevalence rates, as well as clinical features of IBD in different geographic areas or races, may provide insight into possible risk factors and mechanisms that contribute to the occurrence of IBD [50].

In this study peak age of onset for IBD is 35 year which correlate with study conducted by Amira et al. [63] 35.5 year in Iraq, yang SK et al. [51] 35 year in Korea and by Leong et al. [52] 34 year in China, while it is lower in study done by Morita N et al. [53] 24 year in Japan. The ratio of male to female patients was (0.9/1), which show a slight female gender predominance for IBD that is exactly similar to 2 studies done by Amira et al. [63] in Iraq and Vahedi et al. [54] in Iran (0.9/1), it is also comparable to a large study done by Rubin et al. [67]. In the United Kingdom (0.87/1) but differ from a study done by Fallahi et al. [55] in Iran in which male patients are predominant and the ratio was (1.5/1). We did not find a second peak in the elderly mentioned by previously mentioned studies, although the number in this age group was too small to draw a solid conclusion, the same with the Amira et al. study [63].

The presence of rectal inflammation in UC makes bleeding the most consistent presenting feature and this may be gross [28], in the present study bleeding per rectum is the most common presenting feature and it is significantly associated with UC ($p<0.001$) which is compatible with two studies done by Aghazadeh et al. [56] and Vahedi et al. [54] in Iran, but in contrast to a study done by Park et al. [57] in Korea in which diarrhea is a most common clinical presentation. The presentation of CD is determined by the side, extent, severity, and complications of intestinal and extra-intestinal disease, Chronic diarrhea is the most common presenting complaint and abdominal pain and weight loss are present in over 60% of patients at diagnosis [37]; in this study, presence of abdominal pain as a first common presenting feature, it is significantly associated with CD ($p<0.03$) and diarrhea as a second common presenting feature, this is comparable to two studies done by Vahedi et al. [54] in Iran and Park et al. [57] in Korea.

In this study, 11 (14.9%) patients develop extraintestinal manifestations concomitantly with GI symptoms, 7 patients have single organ involvement while 4 of them have 2 organ involvement; skin involvement is the most common type (5.4%),

while eye, musculoskeletal, deep vein thrombosis and liver (primary sclerosing cholangitis and transaminitis) are present in (4.1%), (2.7%), (2.7%) and (1.4%) respectively; it is hard to compare with other studies because of two reasons, first: only symptomatic extra-intestinal manifestations that are present concomitantly with GI symptoms are diagnosed and documented, second: development of these features needs long term to follow up and some of these do not follow the disease activity.

In the present study family history for UC is 4.1% which is higher than a study done by Wang et al. [58] (2.1%) in China and lower than other study done by Vahide et al. [54] (10.2%) in Iran; there is no family history for our CD patients, this is compatible with a study done by Thia et al. [59] (0%) in Singapore but differ from most of other study, Needless to say, we should bear in mind geographical differences or even different interactions between genetic and environmental factors and small number of patient in our study explain these variations.

Smoking is associated with an increased risk of Crohn's disease, In contrast, current smoking is not a risk factor for and may be protective of the development of ulcerative colitis [13]; Our data support the hypothesis of smoking in UC. However, it is hard to draw any firm conclusion regarding CD since the sample size is small and the smoking habits of the general population is not known.

Among IBD patients, the prevalence of UC is (75.7%) and CD (21.6%), this is slightly higher for CD in a study done by Amira et al. [63] in which (82%) for UC and (17%) for CD done in Iraq; our study differ from reports in other part of the world in which UC more than (90%) and CD prevalence less than (10%) like Wiercinska et al. [68] in Poland, Ishibashi et al. [69] in Japan and Wang et al. [54] in china; while reports in some European countries show that CD is more prevalent than middle east countries like Lactose et al. [70] in Croatia in which CD (61%) and Wierska et al. [71] in Romania (34.5%) for CD. Ulcerative proctitis is the most common form of UC accounting (40-50%) of cases while left side colitis second most common. [26]; in this study proctitis is the most common form (39.3%) while left-sided colitis and extensive disease are equal (30.4%) in which extensive disease is increasing, this is explained by the fact that all cases included in his study are diagnosed in our tertiary center. this is compatible with a study done by Amira et al. [63] in Iraq and Abdul-Baqi et al. [60] in Lebanon in which proctitis(31.4%) and (52.3%) respectively, while differ from two studies done by Jiang et al. [61] in china in which left side colitis are the most common type and Fujimoto et al. [62] in Japan in which extensive disease is the commonest type.

Among CD patients in our study, illiocolonic type is the most common (50%) and small intestinal type is second most common (37.5%), this is comparable to study done by Amira et al. [63] in Iraq in which illiocolonic (43.7%) and small intestinal disease is second common; illiocolonic disease also commonest type in two other studies done by Abdul- Baqi et al. [60] in Lebanon and Vahedi et al. [54] in Iran, in contrast to a study done by Aghazadeh

et al. [56] in Iran in which small intestinal disease is the most common type (43.7%).

Patients with Crohn's disease have a longer mean time to diagnosis than patients with UC, and as many as 25% of patients have a delay in diagnosis of over 2 years from the onset of symptoms [64]. In this study, the time for diagnosis since the first symptom is more for CD than UC probably because of the diversity of symptoms. Meantime for diagnosis of UC is 6 months, this time is lower in comparison to a study done by Masnadi Shirazi et al. [65] in Iran (14 months) and higher than a study done by Vjess et al. [66] in Denmark (4.5 month). This time for CD in our study 16 month which is higher in comparison to the two previously mentioned studies (Masnadi Shirazi and Vjess) in which the meantime was (12 and 11 months) respectively.

Conclusion

- The rate of CD has increased significantly in comparison to other studies done in Iraq and near countries.
- IBD most commonly present in 20- 39 year and unlike western trends, there is no second peak in the old age group.
- Meantime for diagnosis of CD is more than UC like most of the eastern and western studies.

Recommendations

- Extra- intestinal manifestations should be looked for and diagnosed with the diagnosis of IBD because a significant number of patients had these manifestations concomitantly with GI symptoms.
- The diagnosis of CD delay in comparison to the UC, for the future it is important to search for other modality like serology, radiology or stool calprotectin and not only depend on current modalities.
- It is important to have another study in our center to assess and estimate factors that exactly lead to a delay in the diagnosis of CD in our country in comparison to other countries.

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