ORIGINAL ARTICLE

Revision of the demographic and clinical data of patients with ulcerative colitis in Turkey

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ABSTRACT

Aim To evaluate the demographic and clinical data of fifty two patients with the diagnosis of ulcerative colitis.

Methods A total of 52 patients diagnosed with ulcerative colitis by clinical, endoscopical and histopathological evaluations were included the study. Demographic data, colon involvement site of the disease and disease severity were examined from the patients' records. The patients were divided into groups according to the Baron grading system.

Results Distribution of patients according to the colon involvement site was: 10 (9.2%) rectal, 16 (30.8%) rectosigmoid, 13 (25%) left sided, 10 (19.2%) extensive colitis and 3 (5.8%) pancolitis. According to colon involvement sites and Baron classification the results were: five (9.6 %), two (3.8%) and three (5.7%) patients with ulcerative proctitis were at grade 1, 2 and 3, respectively. Two (3.8%), six (11.5 %), six (11.5 %) and two (3.8%) patients with rectosigmoid ulcerative colitis were at grade 0, 1, 2 and 3, respectively. Four (7.6 %), five (9.6%) and four (7.6%) patients with left sided ulcerative colitis were at grade 1, 2, and 3, respectively. One (1.9 %), three (5.7%), and six (11.5 %) patients with extensive ulcerative colitis were at grade 1, 2 and 3, respectively. All three (5.7%) patients with pancolitis were at grade 3 (p=0.11)

Conclusion The ratio of pancolitis is found to be lower in our series. There was no statistically significant difference among the genders according to the age, involvement site and the severity of the disease as well as according to the colon involvement sites and grading.

Key words: disease severity, inflammatory bowel diseases, colonoscopy, classification

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INTRODUCTION

Inflammatory bowel diseases (IBD) are chronic inflammatory disorders that affect the gastrointestinal tract and are characterised by the chronic and repetitive activation of the immune system and inflammation (1). There are two clinical forms of IBD: ulcerative colitis (UC) and Crohn's disease. CD affects both the colon and small intestine, whereas UC affects the colon and rectum, but does not involve the small intestine (2). It is a relapsing and remitting disorder with disease free intervals and the inflammation limited to the mucosal layer of the colon (3). The number of new cases of UC each year in North America is 10-12/100,000 individuals/year and the disease is most often seen between the ages of 15-25 (3). A family history is considered a risk for the development of UC because several studies have demonstrated an increase in the prevalence of UC among the relatives of patients with UC (4-6). The UC is mainly presented with diarrhoea mixed with blood and other symptoms such as abdominal pain, mucous stool, weight loss and tenesmus also can be seen (7).

The UC presents variable demographic and clinical characteristics in different regions of the world and the environmental and genetic factors seem to be related to this phenotypic heterogeneity (8). Some studies have shown that UC usually shows a less severe form in Asian countries than in developed Western countries (i.e. a decreased need for surgery, a lower incidence of colorectal cancer and fewer intestinal manifestations) (9,10).

The aim of this study was to describe the demographic and clinical characteristics of patients with UC in Turkey as well as to evaluate the relationship between the disease severity and the colon involvement site in UC patients.

PATIENTS AND METHODS

Study design

Fifty two patients with the diagnosis of ulcerative colitis from the Gastroenterology Clinic of Kayseri Training and Research Hospital, Kayseri, Turkey, were included this study. The patients were diagnosed according to clinical, histopathological and endoscopical evaluations of the disease. Demographic data, colon involvement site and disease severity were retrospectively examined from the patients' records for the periods 2010-2012. The patients who were admitted with weight loss, chronic diarrhoea, bloody diarrhoea, abdominal pain and anaemia were diagnosed as UC after colonoscopy and biopsy.

Methods

The patients were classified in five groups after colonoscopy: ulcerative proctitis (if only rectum is affected), rectosigmoid ulcerative colitis (if rectum and sigmoid colon are affected), left sided ulcerative colitis (if the colon up to the splenic flexura is affected), extensive ulcerative colitis (if the colon above the splenic flexura up to the hepatic flexura is affected), and pancolitis (if the entire colon from rectum to caecum is affected).

Severity of the disease was defined according to Baron classification (11). Baron score includes four grades (0-3) according to the severity of macroscopic inflammation of the rectal mucosa appearances at rigid sigmoidoscopy: grade 0 - normal matt mucosa, no spontaneous bleeding or no bleeding to light touch; grade 1- abnormal but non-haemorrhagic (appearances between 0 and 2); grade 2 - moderately haemorrhagic, bleeding to light touch but no spontaneous bleeding on initial inspection; grade 3 - severely haemorrhagic, spontaneous bleeding on initial inspection. After colonoscopic and pathologic studies the patients were divided into 4 groups according to Baron classification: grade 0 (normal), grade 1 (mild), grade 2 (moderate) and grade 3 (severe).

Statistical analysis

Continuous variables were tested for normal distribution by the Kolmogorov–Smirnov test. The data of descriptive analysis for normally distributed variables were expressed as mean and standard deviations whereas the minimum, maximum and median values were defined for the variables that do not distribute normally. Mann-Whitney U test was used for the comparison of groups that do not distribute normally. For the comparison of normally distributed groups, Student's t-test was used. Categorical variables were summarized as percentages and compared with the chi-square test. The $p<0.05$ was considered as statistically significant.

RESULTS

Among 52 patients included in the study, 32 (61.5%) were males and 20 (38.5%) were fe-

males. The mean age among male patients was 47.15± 13.06 while the mean age among female patients was 40.90±12.98 (p=0.09).

Ten (19.2%) patients were presented with proctitis, 16 (30.8%) with rectosigmoid UC, 13 (25%) with left sided UC, 10 (19.2%) with extensive UC and 3 (5.8%) with pancolitis. The distribution of the colon involvement sites of the disease among genders were: one (5%) proctitis, eight (40%) rectosigmoid ulcerative colitis, four (20%) left sided ulcerative colitis, five (25%) extensive ulcerative colitis and two (10%) were pancolitis for females; nine (28.1%) proctitis, eight (25%) rectosigmoid ulcerative colitis, nine (28.1%) left sided ulcerative colitis, five (15.6%) extensive ulcerative colitis and one (3.1%) were pancolitis for males (p=0.18).

According to Baron classification two (3.8%) patients were in remission (normal) at grade 0, 16 (30.8%) patients were at grade 1, 16 (30.8%) patients were at grade 2, and 18 (34.6%) patients were at grade 3. The distribution of the patients according to gender was: for males - 10 (31.2%) patients were at grade 1, 10 (31.2%) patients were at grade 2 and 12 (37.5 %) patients were at grade 3; for females - two (10%) patients were in remission (normal) at grade 0, six (30%) patients were at grade 1, six (30%) patients were at grade 2 and six (30%) patients were at grade 3 (p=0.33).

The relation between disease severity and the involvement places is shown in Table 1. Five (9.6 %) patients with ulcerative proctitis were at grade 1, two (3.8%) patients were at grade 2 and three (5.7%) patients were at grade 3. Two (3.8%) patients with rectosigmoid ulcerative colitis were at grade 0, six (11.5%) patients were at grade 1, six (11.5%) patients were at grade 2 and two (3.8%) patients were at grade 3. Four (7.6%) patients with left sided ulcerative colitis were at grade 1, five (9.6%) patients were at grade 2 and four (7.6%) patients were at grade 3. One (1.9%) patient with extensive ulcerative colitis were at grade 1, three (5.7%) patients were at grade 2 and six (11.5 %) patients were at grade 3. All three (5.7%) patients with pancolitis were at grade 3. There was no statistically significant difference among the patients according to the colon involvement sites and grading (p=0.11)

Table 1. Number of patients according to Baron classification and colon involvement site

Colon involvement site	Number (%) of patients according to Baron classification				
	Grade 0	Grade 1	Grade 2	Grade 3	p
Ulcerative proctitis	0	5 (9.6)	2 (3.8)	3 (5.7)	
Rectosigmoid ulcerative colitis	2 (3.8)	6 (11.5)	6 (11.5)	2 (3.8)	
Left sided ulcerative colitis	0	4 (7.6)	5 (9.6)	4 (7.6)	0.11
Extensive ulcerative colitis	0	1 (1.9)	3 (5.7)	6 (11.5)	
Pancolitis	0	0	0	3 (5.7)	

DISCUSSION

The UC is a chronic inflammatory condition causing continuous mucosal inflammation of the colon which is characterised by a relapsing and remitting course (3). Although the etiology is not clear yet, genetic, immunologic and environmental factors have been confirmed to contribute to the etiopathogenesis of ulcerative colitis (12). It appears more frequently in developed countries (13). Colonoscopy is an important diagnostic tool and it enables seeing the whole colon segments directly and performing a biopsy (14). In our study, rectosigmoid was the most commonly involved area among all patients. The previous studies showed the involvement from rectum to splenic flexura in 80% of patients and pancolitis in 20% of patients (15). Kühbacher et al. demonstrated that pancolitis was present in 11-30 % of patients (16). The results of a study including 116 cases from Istanbul were as follows: 60.3 % of pancolitis, 25% of left sided ulcerative colitis, 13.8% of proctitis and 0.9% of backwash ileitis (15). Su and Lichtenstein revealed that 37% of the patients had pancolitis, 36-41% proctitis and 44-49% proctosigmoiditis in their study (17). Regueiro showed proctosigmoiditis in 25-75% of patients with UC (11). Ozin et al investigated 507 UC patients in their study and they found that 161 of them (31.7%) had proctitis, 150 (29.6%) had left-sided colitis and 196 (38.7%) had pancolitis and extensive colitis (18). The distribution of the disease in the colon showed 45% pancolitis, 14% left-sided colitis, 21% proctosigmoiditis and 20 % proctititis in a study from Kuwait (19). Compared to the studies above (both from Turkey and other countries), our data showed significantly less pancolitis. When we analysed our results according to gender, rectosigmoid was the most commonly affected area in females with the

percentage of 40%. On the other hand, there were two most affected places for males, both rectum and left side colon with 28.1%. The studies showed the risk of developing colorectal cancer as 1.7% for proctitis, 2.8 for left sided ulcerative colitis and 14% for extensive colitis and also it has been shown that the risk of developing colorectal cancer is higher in patients with pancolitis than the left-sided ulcerative colitis patients (20).

In our study, ulcerative colitis is more often seen in male patients with a ratio of 61.5% and the mean age of males was higher than women. Karlén et al. followed 1547 UC patients in the years between 1955-1989 and they found that the risk of developing cancer was higher in the population under 29 than the population over the age of 29 (20). Ekbom et al. compared the patients in their study by dividing them into three groups: patients under the age of 14 -high risk group-, patients in the age 14-29 -medium risk group- and patients aged over 30 - low risk group (21). Also in our study young people were the majority so we must be careful at this point.

In our study, most patients were in stage 3 according to the Baron classification. When the female patients were examined, 10% of them were in remission. The distribution of patients was equal for each stage among the women (30% for stage 1, 2 and 3). A high number of male patients was in stage 3 and all female patients in remission suggest that the disease progresses more severely in males.

Severe inflammation disrupts the homeostasis and increases the risk of developing neoplasias by contributing the formation of genetic mutations (22). Microsatellites are the simple and short nucleotide repeats situated along the human genome. It was shown that chronic inflammation causes insufficiency in the mechanism of DNA repair because of increased cell destruction and proliferation and microsatellite instability occurs as a sign of this insufficiency (22,23). Microsatellite instability has been detected in colorectal cancers associated with UC. The attention is drawn to the point that the microsatellite instability is significantly higher in the lesions showing severe inflammation (23). Microsatellite instability and the risk of developing malignancy in the neoplastic and non-neoplastic colonic mucosa of the patients with UC have been found to be related with continuous and severe inflammation (22). Among UC patients, those with pancolitis and high disease activity are under a higher risk of malignity (20). Patients with widespread and severe involvement have to be closely followed up for malignity.

In conclusion, the ratio of pancolitis was found to be lower in our series. There was no statistically significant difference among the genders according to the age, involvement site and the severity of the disease as well as according to the colon involvement sites and grading.

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Competing interest: none to declare.

REFERENCES

1. Danese S, Fiocchi C. Ulcerative colitis. N Engl J Med 2011; 365:1713-25.
2. Torpy JM, Lynm C, Golub RM. Ulcerative Colitis. JAMA 2012; 307:104.
3. Thoreson R, Cullen JJ. Pathophysiology of inflammatory bowel disease: an overview. Surg Clin North Am 2007; 87:575-85.
4. Moller FT, Andersen V, Wohlfahrt J, Jess T. Familial risk of inflammatory bowel disease: a population-based cohort study 1977-2011. Am J Gastroenterol 2015; 110:564–71.
5. Andreu M, Márquez L, Domènech E, Gisbert JP, García V, Marín-Jiménez I, Peñalva M, Gomollón F, Calvet X, Merino O, Garcia-Planella E, Vázquez-Romero N, Esteve M, Nos P, Gutiérrez A, Vera I, Cabriada JL, Martín MD, Cañas-Ventura A, Panés J; Spanish GETECCU group (ENEIDA project). Disease severity in familial cases of IBD. J Crohns Colitis 2014; 8:234–9.
6. Orholm M, Munkholm P, Langholz E, Nielsen OH, Sørensen TI, Binder V. Familial occurrence of inflammatory bowel disease. N Engl J Med 1991; 324:84-8.
7. Li J, Wang F, Zhang HJ, Sheng JQ, Yan WF, Ma MX, Fan RY, Gu F, Li CF, Chen DF, Zheng P, Gu YP, Cao Q, Yang H, Qian JM, Hu PJ, Xia B. Coticosteroid therapy in ulcerative colitis: clinical response and predictors. World J Gastroenterol 2015; 21:3005-15.
8. Wong SH, Ng SC. What can we learn from inflammatory bowel disease in developing countries? Current Gastroenterol Rep. 2015; 15:313.
9. Jiang XL, Cui HF. An analysis of 10218 ulcerative colitis cases in China. World J Gastroenterol 2002; 8:158-61.
10. Gong W, Lv N, Wangetal B. Risk of ulcerative colitis-associated colorectal cancer in China: a multi-center retrospective study. Dig Dis Sci 2012; 57:503-7.

11. Regueiro MD. Diagnosis and treatment of ulcerative proctitis. J Clinic Gastroenterol 2004; 38:733-40.
12. Shirazi KM, Somi MH, Bafandeh Y, Saremi F, Mylanchy N, Rezaeifar P, Abedi Manesh N, Mirinezhad SK. Epidemiological and clinical characteristics of inflammatory bowel disease in patients from northwestern iran. Middle East J Dig Dis 2013; 5: 86-92.
13. Balai H, Asadzadeh A, Aghdaei H, Farnood A, Habibi M, Mafi AA, Firouzi F, Sharifian A, Shahrokh S, Lahmi F, Zojaji H, Naderi N, Zali MR. Time trend analysis and demographic features of inflammatory bowel disease in Tehran. Gastroenterol Hepatol Bed Bench 2015; 8: 253-61.
14. Björck S, Dahiström A, Ahlman H. Treatment of distal colitis with local anaesthetic agents. Pharmacol Toxicol 2002; 90:173-80.
15. Ozdil S, Akyüz F, Pinarbasi B, Demir K, Karaca C, Boztas G, Kaymakoglu S, Mungan Z, Besisik F, Cakaloglu Y, Okten A. Ulcerative colitis: analyses of 116 cases (do extraintestinal manifestations effect the time to catch remission?). Hepatogastroenterology 2004; 51:768-70.
16. Kühbacher T, Scheiber S, Fölsch UR. Ulcerative colitis: conservative management and long term effects. Langenbecks Arch Surg 2004; 5:350-53.
17. Su C, Lichtenstein GR. Diagnosis of Crohn's disease: A wolf in sheep's clothing? Am J Gastroenterol 2000; 95:3345-50.
18. Ozin Y, Kılıç MZY, Nadir I, Cakal B, Disibeyaz S, Arhan M, Dagli U, Tunc B, Ulker A, Sahin B. Clinical features of ulcerative colitis and Crohn' s disease in Turkey. J Gastrointestin Liver Dis 2009; 18:157-62.
19. Al-Shamali MA, Kalaoui M, Patty I, Hasan F, Khajah A, Al-Nakib B. Ulcerative colitis in Kuwait: a review of 90 cases. Digestion 2003; 67:218-224.
20. Karlén P, Löfberg R, Broström O, Leijonmarck CE, Hellers G, Persson PG. Increased risk of cancer in ulcerative colitis: A population-based cohort study. Am J gastroenterol 1999; 94:1047-52.
21. Ekbom A, Helmick C, Zack M, Adami HO. Ulcerative colitis and colorectal cancer: a population –based study. N Engl J Med 1990; 336:357-9.
22. Tahara T, Inoue N, Hisamatsu T, Kashiwagi K, Kanai T, Watanabe M, Ishii H, Hibi T. Clinical significance of microsatellite instability in the inflamed mucosa for the prediction of colonic neoplasms in patients with ulcerative colitis. J Gastroenterol Hepatol 2005; 20:710-5.
23. Karaman A, Hamurcu Z, Donmez H, Bitken N, Karaman H, Baskol M, Gursoy S, Guven K, Takaishi H, Yucesoy M. Investigation of genome instability in exfoliated colonic epithelial cells and in mitogen-stimulated lymphocytes of patients with ulcerative colitis. Digestion. 2012; 85:228-35.