

Clinical characteristics of Crohn's disease in Qatar

Mohammed T. Butt, MD, FACG, Abdulbari Bener, MFPHM, FRSS,
Saad Al-Kaabi, MD, FACHARZT, Rafie Yakoub, MD.

ABSTRACT

Objective: To assess the clinical characteristics of Crohn's disease (CD) in Qatar.

Methods: This is a retrospective descriptive study. We studied 50 CD patients admitted to Hamad General Hospital over a period of 8 years from January 1995 to December 2002. We retrospectively collected and analyzed the demographic and clinical data. We made the diagnostic classification of definite CD in accordance with the criteria based on the International Classification of Disease ninth revision [ICD-9]. We based the obtained information on the following parameters: the age at the time of admission, gender and Crohn's risk factor profiles.

Results: Of the studied population, 60% were males and 40% females. Sixty-two percent were Qataris and

38% expatriates. Most of the subjects were <40 years of age (80%). Fifty-two percent had ileo-colonic disease, 24% colonic and 24% ileal disease. The majority of the Crohn's patients had the symptom of abdominal pain (84%), followed by weight loss (80%) and diarrhea (70%). Pallor sign was most frequent in patients with inflammatory CD (76.9%) and obstructive CD (66.7%), whereas we found the anal signs in patients with fistulas (84.2%).

Conclusion: The study showed a relatively high frequency of ileo-colonic Crohn's disease compared to colonic and ileal diseases. We observed that the most frequent symptom is abdominal pain.

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Crohn's disease (CD) is a chronic inflammatory disease involving predominantly the small intestine and colon. The disease can have complications, both intestinal and extraintestinal (systemic). The cause of CD is unknown.¹ Crohn's disease is a chronic transmural inflammatory disease of the bowel as a result of dysregulation of the mucosal immune system.² Although the exact etiology is unknown, family and twin studies suggest that genetic predisposition is an important factor in the etiology of the disease.^{3,4} Crohn's disease has a high incidence in Western Europe, Scandinavia, and North America compared to some countries such as South American, the Soviet Union and Japan.⁵

Reports from Asian and African countries are scanty, although cases are being identified with more frequency. The existence of inflammatory bowel disease in Kuwait⁶ and the rest of Arab World⁷ until a few years ago, were considered rare. Crohn's disease presents an important public health problem as its incidence is highest in early adulthood,⁸ it is commonly, a chronic relapsing condition and is highly debilitating for young adults.⁹ In Europe, incidence rates are higher in females than in males, and they might have risen over recent decades.¹⁰ Little is known about the etiology of CD and previous studies investigated the role of environmental and genetic factors with no clear

From the Gastroenterology Section (Butt, Al-Kaabi, Yakoub), Department of Medicine and the Department of Medical Statistics and Epidemiology (Bener), Hamad General Hospital and Hamad Medical Corporation, Doha, State of Qatar.

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Address correspondence and reprint request to: Prof. Abdulbari Bener, Department of Medical Statistics and Epidemiology, Hamad General Hospital, Hamad Medical Corporation, PO Box 3050, Doha, State of Qatar. Tel. +974 4393765/439766. Fax. +974 4393769. E-mail: abener@hmc.org.qa / mtbutt@qatar.net.qa

pattern emerging.¹¹⁻¹³ We assess the clinical characteristics of CD in a geographically defined population of the State of Qatar.

Methods. The estimated population of State of Qatar for the year 2002 was 724,125. Almost 30% of the population are Qatari nationals and expatriates, mostly from the Middle East, South Asia and South East Asia.¹⁴

The study population included 50 patients with a diagnosis of CD who were treated in the Gastroenterology Unit. Sixty percent of them were males and 40% females. Sixty-two percent were Qataris and 38% were expatriates from Palestine, United Kingdom, India, Pakistan, Iran, Bangladesh and Canada. The mean age of males was 35.6 ± 19.0 years and females was 33 ± 13.9 years. The majority of the studied subjects were <40 years (80%). All medical information was retrieved from the medical chart and no case was excluded. The study took place at the Hamad General Hospital in Doha, Qatar. This hospital provides comprehensive tertiary health care services for all the residents residing in Qatar, and making it an ideal center for population-based studies. These records have been coded and registered at the Department of Medicine and the Gastroenterology (GI) Unit from January 1995 to December 2002. We used the database of the Hospital for this study. The GI unit retrospectively collected the data of all patients admitted to the Medicine Department. All patients with CD in Qatar were hospitalized and treated. With the described database, all inpatients diagnosed with CD during the 8-year period (1995-2002) were identified according to the International Classification of Disease, 9th Version [ICD-9] by the World Health Organization.¹⁵ We studied 50 patients over 8 years and analyzed the age of presentation, gender, ethnicity and duration of disease, sign and symptoms. We determined the diagnosis of CD base on the conventional endoscopic, radiologic and histologic criteria. We grouped the patients according to Vienna classification: the age of diagnosis (<40 years [A1] or >40 years [A2], disease location terminal ileum [L1], colonic [L2], ileocolonic [L3] or upper GI [L4] and disease behavior-inflammatory [B1], stricturing [B2] or fistulizing [B3]. In addition, the need for abdominal operation and therapeutic strategies was recorded. Extra-intestinal disease included musculoskeletal, dermatologic and hepatobiliary manifestations of CD. We graded the severity of disease according to the requirement for abdominal operations and the need for immuno-suppressive therapy regimens. Maintenance immuno-suppressive therapy was with azathioprine. Advanced immuno-suppressive therapy was defined as the need for treatment with anti-TNF antibodies.

We performed Chi-square analysis to test for differences in proportions of categorical variables between 2 or more groups. In 2x2 tables, the Fisher exact test (2-tailed) was used instead of Chi-square, in particular, when sample size was small. The level $p < 0.05$ was considered according to the cut-off value for significance. Data was entered and analyzed using the Statistical Package for Social Sciences (version 13).

Results. Table 1 shows the association between disease location and complication. Of the 50 patients, 52% had ileocolonic disease, 24% had disease restricted to the terminal ileum, and 24% had colonic disease. Inflammation and fistulas complicated ileocolonic disease more frequently, whereas obstruction complicated ileal disease.

Table 2 shows the distribution of symptoms among studied patients. Diarrhea was the symptom mostly seen in patients with colonic disease, weight loss with ileocolonic disease, and abdominal pain with ileal disease. The majority of the studied patients with CD had abdominal pain (84%), followed by weight loss (80%), diarrhea (70%), loss of appetite (46%), and bleeding (32%).

Table 3 shows the distribution of symptoms and signs by disease behavior. Weight loss was the symptom mostly seen in patients with inflammatory CD, followed by abdominal pain with obstructive CD. Pallor sign was most frequent in patients with predominant inflammation followed by obstruction, whereas we observed anal signs in patients with fistulas.

Discussion. Inflammatory bowel diseases, comprising CD and ulcerative colitis, are among the most serious of digestive diseases.¹⁶ The existence of CD among Arabs, Asians and Africans until a decade ago were considered rare. Approximately 20% of patients with CD have a blood relative with some form of inflammatory bowel disease. Crohn's

Table 1 - Association between disease location and complications (n=50).

Disease location	Inflammatory (n=39) (%)	Obstructive (n=18) (%)	Fistulating (n=19) (%)
Colonic (n=12)	11 (28.2)	1 (5.6)	5 (26.3)
Ileocolonic (n=26)	21 (53.8)	7 (38.9)	10 (52.6)
Ileal (n=12)*	7 (17.9)	10 (55.6)	4 (21.1)
*statistically significant $p < 0.01$			

Table 2 - Distribution of symptoms among patients studied (n=50).

Type of Symptom	Colonic (n=12) (%)	Ileocolonic (n=26) (%)	Ileal (n=12)(%)
Diarrhea (n=35)	10 (83.8)	19 (73.1)	6 (50)
Abdominal pain (n=42)	9 (75)	22 (84.6)	11 (91.7)
Bleeding PR (n=16)	6 (50)	9 (34.6)	1 (8.3)
Weight loss (n=40)	8 (66.7)	23 (88.5)	9 (75)
Loss of appetite (n=23)	6 (50)	12 (46.2)	5 (41.7)
Jaundice (n=1)	0	0	1 (8.3)
PR - per rectum			

Table 3 - Distribution of symptoms and signs by disease behavior (n=50).

Variables	Inflammatory (n=39) (%)	Obstructive (n=18)(%)	Fistulating (n=19)(%)
Symptoms			
Diarrhea (n=35)*	33 (84.6)	8 (44.4)	13 (68.4)
Abdominal pain (n=42)	33 (84.6)	17 (94.4)	15 (78.9)
Bleeding PR (n=16)	13 (33.3)	2 (11.1)	8 (42.1)
Weight loss (n=40)	34 (87.2)	14 (77.8)	15 (78.9)
Loss of appetite (n=23)	19 (48.7)	9 (50)	8 (42.1)
Jaundice (n=1)	1 (2.6)	1 (5.6)	1 (5.3)
Signs			
Pallor (n=36)	30 (76.9)	12 (66.7)	12 (63.2)
Mass (n=5)	4 (10.3)	3 (16.7)	2 (10.5)
Tenderness (n=22)	15 (38.5)	9 (50)	8 (42.1)
Anal signs (n=25)*	20 (51.3)	6 (33.3)	16 (84.2)
Extra intestinal features (n=14)	11 (28.2)	5 (27.8)	4 (21.1)
*statistically significant $p < 0.01$, PR - per rectum.			

disease affects male and female equally and seems to run in some families. In the present study, 60% of the studied subjects were males and 40% females. We found a similar rate in the study of Al-Nakib et al⁷ in Kuwait that 64% of the patients with CD were males and 36% females. Two important clinical characteristics of CD are the tendency for exacerbations and remission and its occurrence in a relatively young population. In our study, most of the patients were <40 years (80%). The most common symptoms of CD are abdominal pain, often in the right lower quadrant, and diarrhea. Rectal bleeding, weight loss and fever may also occur. Bleeding may be serious and persistent leading to anemia. Children with CD may suffer delayed development and stunted growth.¹⁷ The data in our study revealed that abdominal pain (84%) was found more frequently in patients with CD, followed by weight loss (80%) and diarrhea (70%). This is in line with the study conducted in Kuwait⁷ that abdominal pain was the most common

presenting complaint (93%), followed by diarrhea (57%) and bleeding (50%). But in Qatar, bleeding was not a big problem for the studied patients (32%). We observed the major clinical manifestations of diarrhea, abdominal pain and weight loss in a high percentage of patients with greater prevalence in patients with ileocolonic disease which did not reach statistical significance. There was an association noted in our patients between disease location and behavior. Inflammation and fistulas complicated ileocolonic disease more frequently, whereas obstruction affected ileal disease. The National Cooperative Crohn's disease study¹¹ demonstrated that fistulas complicated ileo-colonic disease more often than other disease locations. Overall, the present study is consistent with trends in rates from population-based studies and hospital morbidity statistics. Generally, we found no increase in hospitalized rates. Other studies have reported stabilizing or declining incidence rates for CD after a steady

increase for several decades in the past.⁹ Approximately half of our patients had ileocolonic disease, with a quarter each having ileal or colonic disease. It affects predominantly young males in Qatar and about one third of patients needed surgery.

In conclusion, the study showed a relatively high frequency of ileo-colonic disease compared to colonic and ileal diseases. Abdominal pain was the most frequent presenting symptom. It is an important public health problem because its incidence is highest in adulthood.

We observed an association between disease behavior and location. By categorizing patients according to discrete clinical phenotypes, we can increase our power to detect genetics and immunological association and thus, more information about the etiology pathogenesis of Crohn's disease can be obtained.

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