

ORIGINAL ARTICLE

Demographic Profile and Extra Intestinal Manifestations of Ulcerative Colitis in Pakistani populationUSMAN ALI¹, JAHANGIR ANJUM², SHERAZ AHMED³, HUMAIRA ERUM⁴, SAADIA HAMID⁵, NAZIA AKBER MIR⁶¹Senior Medical Officer, Govt. Nawaz Sharif Medical College, Lahore²Assistant professor of Medicine, Mohtarma Benazir Bhutto Shaheed Medical College / Divisional Headquarters Teaching Hospital Mirpur Azad Kashmir³Senior Registrar, Al Noor Specialist Hospital, Makkah, Saudi Arabia⁴Senior Registrar, PAF Hospital, Islamabad, Unit 2⁵Senior Lecturer, Community Medicine Department, AIMI, Abbotabad⁶Assistant professor Microbiology, Sharif Medical and Dental College, LahoreCorresponding author: Jahangir Anjum, Email: drjahangiranjum@gmail.com**ABSTRACT****Background:** It is a systemic disorder. It begin in the rectum and later on extent to the other organs. Usually the involvement of other organ in addition to intestine is observed and the condition is called as extra intestinal manifestation. It is associated with high rate of morbidity and mortality.**Study design:** It is a retrospective study conducted in Mohtrama Benazir Bhutto Shaheed Medical College / Divisional Headquarters teaching hospital Mirpur Azad Kashmir for the duration of six months from February 2022 to July 2022.**Material and Methods:** There were total 72 males that participated in this study and 48 females. The age distribution of the patients is. Most of the patients belonged to age group from 20 to 39 years followed by group 40-59 where 22 patients were reported. This study was approved by the hospital review board committee. The participants were aware of the study objective. The written consent was signed by the participants. The SPSS was used for the statistical analysis.**Results:** Extra-intestinal manifestations of the patient were analyzed and it was found that in 24% of the patient's musculoskeletal symptoms were present. Sacroillitis was observed in 12.1% of the patients as the most commonly found symptom. Peripheral arthritis was also reported in 7.3% of the patients. Episcleritis was present in case of 2.1% of the patients.**Conclusion:** It is concluded that the peak age of patients included in this study with Ulcerative colitis is according to the other European and Asian countries, However, the second peak of Ulcerative colitis was missing unlike in some European studies. Extra intestinal Manifestations were quite low.**Keywords:** Inflammatory bowel disease and extra intestinal manifestation.**INTRODUCTION**

Ulcerative colitis (UC) is one of the most frequently reported disease in western population. The incidence of ulcerative colitis are believed to be rising in the current world. The etiology of UC is still unknown. It is common in both developing and developed countries¹⁻³. The higher prevalence and incidence is also observed in Pakistan. It is a systemic disorder. It begin in the rectum and later on extent to the other organs. Usually the involvement of other organ in addition to intestine is observed and the condition is called as extra intestinal manifestation. It is associated with high rate of morbidity and mortality. The intestinal manifestation includes uveitis, hemolytic anemia, pyoderma and cholestatic liver disease. In case of extensive colitis the inflammation extend to the distal ileum. The clinical and demographic characteristics of the patients diagnosed with UC vary sharply in the reports. The limited and scarce information regarding UC is present in the literature. The need of hour is to conduct the study on the demographic profile and extra intestinal manifestation of UC in Pakistani population. It is a subtype of inflammatory bowel diseases. It is characterized as the rectum superficial inflammation and the inflammation continues in the adjacent mucosa. It is reported in many studies⁴⁻⁶ that the pediatric inflammatory bowel diseases are more severe and extensive. The computed tomography is usually used as standard diagnostic technique. The extra intestinal manifestation (EIM) are reported in 28% of the pediatric patients. EIM are observed to be more common in pediatric than adults. The four organs are frequently observed in EIM are biliary tract, joints, skin, and eyes. The pyoderma gangrenosum and erythema nodosum are commonly observed in skin related EIMs. However arthritis is reported to observe in 8 to 26% cases of UC⁷⁻⁸. When the various parameters of this disease were studied, the genealogy of Ulcerative colitis was also taken into account. There was no family history of this disease in Asian families. However, studies in Europe show a family history of this disease. In terms of family history of Ulcerative colitis, the Chinese studies show similar results to the European studies. According to the Montreal classification system the extent of disease play an important role in UC classification. It is classify into three groups such as left sided UC, extensive UC and ulcerative proctitis. The racial and ethnic

variations are observed in the different geographic area. It is suggested that the environmental and genetic factors play an important role in disease onset⁹⁻¹⁰. These factors are associated with the phenotypic heterogeneity of the disease. These factors influence the pathogenesis and natural course of the disease. The less severe form of UC is observed in the Asian countries as compared to the western countries. It is more commonly observed in the young male as compared to the young female. The study was carried out to find the demographic profile and the extra intestinal manifestations of Ulcerative Colitis in Pakistani population.

MATERIAL AND METHODS

There were total 72 males that participated in this study and 48 females. The age distribution of the patients is. Most of the patients belonged to age group from 20 to 39 years followed by group 40-59 where 22 patients were reported. This study was approved by the hospital review board committee. The participants were aware of the study objective. The written consent was signed by the participants. The SPSS was used for the statistical analysis. According to the inclusion criteria following patients were included in the study

1. The patients having the history of diarrhea from more than four weeks
2. The patients in which the histopathological sign of inflammation seen after biopsy

The data of every patients was collected i.e. data about gender, age at diagnosis, the disease duration, and the symptoms presented when admitted to the hospital. The family's history of UC, disease severity and extent at diagnosis and extra intestinal manifestation was collected. True love and Witts criteria were used to classify the disease severity.

RESULTS

The study was carried out to find the demographic profile and the extra intestinal manifestations of Ulcerative Colitis in Pakistani population. Patients that were not according to the inclusion criteria were excluded from the study. Similar age distribution was

observed in case of female patients as well. There were only 4 female candidates that were more than 60 years of age.

Table 1: Demographic distribution of patients

Sex of the patients	Age groups				Total
	<20 years	20-39 years	40-59 years	>60 years	
Male	8	30	22	12	72
Female	4	22	18	4	48

The extent of the disease was also observed and it was found that pan colitis was present in case of 10% of the patients, whereas, majority of patients had distal colitis as observed in 51% of the patients. In case of 39% of the patients' proctosigmoiditis was reported.

Table 2: Determination of extent of the disease

Extent of disease	Percentage of patients
Proctosigmoiditis	39%
Distal colitis	51%
Pan colitis	10%

Extra-intestinal manifestations of the patient were analyzed (table no.3) and it was found that in 24% of the patient's musculoskeletal symptoms were present. Sacroiliitis was observed in 12.1% of the patients as the most commonly found symptom. Peripheral arthritis was also reported in 7.3% of the patients. Episcleritis was present in case of 2.1% of the patients.

Table 3: Intestinal manifestations of patients

Extra-intestinal manifestations	Percentage%
Sacroiliitis	12.1%
Peripheral arthritis	7.3%
Episcleritis	2.1%
Erythema nodosum	1.9%
Primary sclerosing cholangitis	1.1%

The severity of the disease was also determined and it was seen that almost 19% of the patients had mild disease. Most of the students (27%) had moderate disease as shown in table no.4

Table 4: Severity of the disease

Severity of disease	Percentage of patients
Mild	19%
Moderate	27%
Severe	14%

DISCUSSION

In western areas, Ulcerative colitis is not treated as a particulate disease. However, this disease is particularly important in Asian countries. This study is about the demographic distribution of Ulcerative colitis across Pakistan. The results of this study are according to the results of other Asian and European countries in the 3rd and 4th decades. However, the 6th and 7th decade studies of Asia show more accuracy with these results¹¹⁻¹².

In this study, 72 male patients and 48 female patients were included according to the inclusion criteria. All of them have aged from 20 to 39 years. After demographic studies, it was predicted that Ulcerative colitis is equally distributed in both male and female patients and these results are similar to the other studies of the east and west of the world. So, the overall results state an equal ratio of both males and females suffering from Ulcerative colitis¹³.

When different parameters of this disease were studied, then the family history of Ulcerative colitis was also considered. In Asian families, no family history was observed for this disease. However, European studies show a family history linkage with this disease. The Chinese studies also show similar results to the European studies in terms of family history of Ulcerative colitis¹⁴⁻¹⁵.

Basically, Ulcerative colitis is a multi organ disorder. Apart from the intestine, a number of other organs also involves in the

progression of this disease, and this involvement is termed an extra intestinal Manifestation. This manifestation resulted in a number of deaths. In this study, different extra intestinal manifestations were also studied. The percentage of peripheral arthritis is 7.3%, sacroiliitis was 12.1%, Erythema nodosum was 1.9%, Episcleritis was 2.1%, and Primary sclerosing cholangitis was 1.1%. These findings were similar to the Asian and Chinese studies. This study shows 24% extra intestinal Manifestations, while the European countries show the manifestation of about 26 to 46 %. However, in the Chinese population, a very low manifestation rate was observed¹⁶⁻¹⁷.

Sacroiliitis was also studied by some scientists, it is an inflammatory back pain. The patients included in this study suffering from sacroiliitis were also suffering from peripheral arthritis. These statement also follows the studies of European, Asian, and Chinese studies. Some intrahepatic and extrahepatic disorders of the bile duct were also observed, while in other Asian countries, no such results were studied¹⁸.

The extent of the disease was also studied. About 39% of the patients were suffering from proctosigmoiditis, and 10% were suffering from Pan Colitis, while the majority of the patients were suffering from distal colitis, a less severe form. The severity of the disease was also estimated and the majority of the patients were suffering from moderate disease levels. While few patients have low or extreme disease levels. The extent of the disease and its severity also follows the pattern of Ulcerative colitis studies in Asian and European countries¹⁹.

A more important estimation of this study was the delay in the detection of Ulcerative colitis in the Pakistani population. According to some studies, if Ulcerative colitis is detected after 1 year of disease progression, it is considered late detection. Most of the patients included in this study were diagnosed with Ulcerative colitis after 4 years of disease progression. A number of statements were considered for this delay in detection, one is the continued ignorance of symptoms of this disease by patients. Another reason is the false detection of disease because many other diseases may have similar symptoms. One of the prime reasons behind the late detection of this disease is the careless attitude of the patients toward endoscopy and other diagnostic methods, and sometimes unavailability of basic medical care may also cause late detection²⁰.

This study has a few limitations as well. This study was done in a specified area and only a small proportion of patients were studied so some medical situations were neglected and only a study about a specific demographic area was done. Some patients' behavior was highly irresponsible and their follow up samples were not obtained so some confusion still remained²¹.

CONCLUSION

From this study, it is concluded that the peak age of patients included in this study with Ulcerative colitis is according to the other European and Asian countries, However, the second peak of Ulcerative colitis was missing unlike in some European studies. Extra intestinal Manifestations were quite low in this study and the most common was Sacroiliitis. Patients were diagnosed with disease quite late due to poor resources, awareness, and low health care facilities. For more appropriate results, further studies are needed to be done with a large diverse population.

REFERENCES

1. Harsh S, Adhikari A, Parazuli P, Pathak R, Khadga PK, Sharma S. Demographic Profile and extra intestinal manifestations of ulcerative colitis in nepalese population: study from TUTH a Tertiary care centre, Kathmandu, Nepal. *Journal of Advances in Internal Medicine*. 2015 Dec 18;4(1):1-5.
2. Tsironi E, Feakins RM, Roberts CS, Rampton DS, Phil D. Incidence of inflammatory bowel disease is rising and abdominal tuberculosis is falling in Bangladesh in East London, United Kingdom. *Official journal of the American College of Gastroenterology| ACG*. 2004 Sep 1;99(9):1749-55.

3. Khan IM, Javed M, Hassan MK, Khan SA, Rehman S. CLINICAL PROFILE OF ULCERATIVE COLITIS. *Journal of Medical Sciences*. 2010 Feb 1;18(1):67-70.
4. Tan YM, Goh KL. Ulcerative colitis in a multiracial Asian country: racial differences and clinical presentation among Malaysian patients. *World journal of gastroenterology: WJG*. 2005 Oct 10;11(37):5859.
5. Burstiner L, Nguyen P, Owings AH, Njoku K, Royer A, Mills K, Liu J, Turner J, Glover SC. S3323 Clinical Presentation of African Americans With Ulcerative Colitis in Rural vs Urban Settings. *Official journal of the American College of Gastroenterology| ACG*. 2021 Oct 1;116:S1369-70.
6. Ahuja V, Tandon RK. Inflammatory bowel disease in the Asia-Pacific area: a comparison with developed countries and regional differences. *Journal of digestive diseases*. 2010 Jun;11(3):134-47.
7. Jumani L, Kataria D, Ahmed MU, Shah MA, Raja K, Shaikat F. The spectrum of extra-intestinal manifestation of Crohn's disease. *Cureus*. 2020 Feb 10;12(2).
8. Khan MS, Ghafoor S, Iltaf M, Khalid M, Aftab AM, Rehman AU, Khan MA. Ulcerative Colitis Ocular Manifestations in Patients Admitted to a Peshawar Tertiary Care Hospital. *Pakistan Journal of Medical & Health Sciences*. 2022 Aug 18;16(06):699-.
9. Misra R, Limdi J, Cooney R, Sakuma S, Brookes M, Fogden E, Pattni S, Sharma N, Iqbal T, Munkholm P, Burisch J. Ethnic differences in inflammatory bowel disease: results from the United Kingdom inception cohort epidemiology study. *World journal of gastroenterology*. 2019 Oct 10;25(40):6145.
10. Aziz DA, Moin M, Majeed A, Sadiq K, Biloo AG. Paediatric inflammatory bowel disease: Clinical presentation and disease location. *Pakistan journal of medical sciences*. 2017 Jul;33(4):793.
11. Bodiwala V, Marshall TF, Seril D. Characterization of the Clinical and Phenotypic Features of South Asian Patients with Inflammatory Bowel Disease at an IBD Referral Center in the United States: 710. *Official journal of the American College of Gastroenterology| ACG*. 2018 Oct 1;113:S399-400.
12. Mohammadi M, Rastin M, Rafatpanah H, Abdoli-Sereshki H, Zahedi M, Nikpoor A, Baneshi MR, Hayatbakhsh MM. Association of HLA-DRB1 alleles with ulcerative colitis in the City of Kerman, South eastern Iran. *Iranian Journal of Allergy, Asthma and Immunology*. 2015 Oct 18;306-12.
13. Ghione S, Sarter H, Fumery M, Armengol-Debeir L, Savoye G, Ley D, Spyckerelle C, Pariente B, Peyrin-Biroulet L, Turck D, Gower-Rousseau C. Dramatic increase in incidence of ulcerative colitis and Crohn's disease (1988–2011): a population-based study of French adolescents. *Official journal of the American College of Gastroenterology| ACG*. 2018 Feb 1;113(2):265-72.
14. Khan A, Asif S, Haroon M, Aslam MZ, Shamim R, ud Din Z. Takayasu Arteritis: Pattern Of Clinical And Radiological Features, Experience From Pakistan. *J Ayub Med Coll Abbottabad*. 2022;34(1).
15. Naeem N, Arshad I, Zaman S, Khan Z. Incidence of ulcerative colitis (uc) and crohn's disease in thyroid disorders. *International Journal of Medical Research & Health Sciences*. 2020;9(1):63-6.
16. Gudbrandsson B, Molberg Ø, Garen T, Palm Ø. Prevalence, incidence, and disease characteristics of Takayasu arteritis by ethnic background: data from a large, population-based cohort resident in southern Norway. *Arthritis care & research*. 2017 Feb;69(2):278-85.
17. Warsi I, Ahmed J, Younus A, Rasheed A, Akhtar TS, Ain QU, Khurshid Z. Risk factors associated with oral manifestations and oral health impact of gastro-oesophageal reflux disease: a multicentre, cross-sectional study in Pakistan. *BMJ open*. 2019 Mar 1;9(3):e021458.
18. Hosseini SV, Safarpour AR, Taghavi SA. Developing a novel risk-scoring system for predicting relapse in patients with ulcerative colitis: A prospective cohort study. *Pakistan Journal of Medical Sciences*. 2015 Nov;31(6):1511.
19. Rehman H, Cheema HA, Alvi MA, Anjum MN, Fayyaz Z, Batool SS, Saeed A. Assessment of Quality of Life Among Children with Inflammatory Bowel Disease. *Pakistan Armed Forces Medical Journal*. 2022 Oct 1;72(5).
20. Enrique A, Salvador E, Laura O. Young Investigator: Frequency of Small Intestinal Bacterial Overgrowth (SIBO) in Patients With Ulcerative Colitis Using Hydrogen and Methane-Based Breath Tests With Lactulose: P-059. *Official journal of the American College of Gastroenterology| ACG*. 2018 Feb 1;113:S14.
21. Akhtar MH, Masud K, Nazar CM, Mumtaz MY, Bhatti TK. Frequency of colorectal dysplasia and cancer among young patients with ulcerative colitis in a tertiary care hospital. *Immunopathologia Persa*. 2016 Sep 5;3(1):e04.