# Demographic Profile and Extra Intestinal Manifestations of Ulcerative Colitis in Nepalese population: Study from TUTH a Tertiary Care Centre, Kathmandu, Nepal.

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## ABSTRACT

**Background and Aims:** This study aims at determining the demographic profile and extra-intestinal manifestations of Ulcerative Colitis in the Nepalese patients treated in a tertiary referral centre.

**Methods**: The study was conducted between February 1, 2014 and January 31, 2015 at the Department of Gastroenterology Tribhuvan University Teaching Hospital, Kathmandu, Nepal. The clinical and epidemiologic data from patients diagnosed to have Ulcerative Colitis were obtained and analysed.

**Results**: During the study period, 60 patients were identified as having ulcerative colitis. Mean age at diagnosis was 34.6 years. The mean duration of illness at diagnosis was 3.7 years. Extra-intestinal manifestations (EIM) were seen in 16.6% of the patients. Sacroilitis was the most common EIM seen in 11.6% followed by peripheral arthritis in 6.6% of the patients. Episcleritis, Primary Sclerosing Cholangitis and Erythema Nodosum were seen only in 1.6% each. At the time of presentation, 38.3% (n=23) had proctosigmoiditis , 50% (n=30) left sided colitis and pancolitis was seen in 11.7% (n=7).53.3% patients had mild disease, 38.3% and 8.3 % presented with moderate to severe disease respectively.

**Conclusion**: Peak age of onset for UC in the study was third and fourth decade which was similar to the various studies from Asia and West. Musculoskeletal manifestation was the most common extra- intestinal manifestation of UC in Nepalese population. As Nepal is perhaps the most diverse country in terms of ethnicity, cultural variation, socio-economic status and health care facilities, a comprehensive nationwide data bank involving ethnicity and geographical variation is needed for a better definition of the disease characteristics.

## INTRODUCTION

Ulcerative colitis is a chronic inflammatory bowel disease of unknown etiology. It is a worldwide disorder with significant geographical heterogeneity, the highest prevalence rates having been reported from Northern and Western Europe and North America.[1] A significant North-South gradient has also been observed in the prevalence of the disease, with rates being higher in Northern countries.[2, 3] Ulcerative colitis has been viewed from various studies in the past as being rare in developing countries of the world, including those from Asia.[4] However, recent epidemiological experience is changing these premises. The disease is beginning to make itself known in populations where it had never been seen before, such as the the Chinese in Singapore, and the Arabs in Kuwait.[5] An increased incidence is also being reported from the previously low incidence areas of Australia and Eastern Europe. [6, 7]

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Moreover high prevalence and incidence has also been found in northern India.[8]

Ulcerative colitis as a systemic disorder often involving other organs. Involvement of organs other than the intestine is called as Extra Intestinal Manifestations and often complicates its management and, is a significant source of morbidity and mortality.[10] The frequency and temporal relation of these manifestations have led to general acceptance that these intestinal problems are systemic disorders,with wide spectrum of extra intestinal manifestation which includes pyoderma, gangrenosum, erythema nodosum, uveitis, episcleritis, cholestatic liver disease, hemolytic anemia, arthritis, and pulmonary disease of various types.[9 ,11,12,13]Various studies reported from various parts of world showed differences amongst the demographic and clinical characterstics of patients with Ulcerative Colitis.

Despite the rising incidence and prevalence of this condition in Asian countries, the data regarding this disease in Nepalese patients are relatively few or none and may be different from the Western counterparts. In view of this, to determine demographic profile and extra intestinal manifestations of Ulcerative Colitis in Nepalese population, we conducted this study in TUTH, a tertiary care centre in Nepal,

## MATERIALS AND METHODS

All patients with Ulcerative Colitis presenting to the Outpatient department or admitted in the ward of Department of Gastroenterology, Tribhuvan University Teaching Hospital, Kathmandu in the study period of one year (February 1st 2014 to January 1st 2015) were included in the study.

A definite diagnosis of UC was made in those who met all 3 of the criteria used for determining UC:

(1) A typical history of diarrhoea or blood and pus in the stool, or both, for longer than 4 weeks;

(2) A typical sigmoidoscopic or colonoscopic picture with diffusely granular, friable, or ulcerated mucosa without rectal sparing or skip lesions of characteristic continuous ulcerated mucosa; and

(3) Characteristic histopathological signs of inflammation on biopsy.[14, 15, 16, 17]

Following clinical data were retrieved from each patient:

    (i) sex

    (ii) age at diagnosis

    (iii) duration of disease

    (iv) presenting symptoms

    (v) family history of UC

(vi) extent of colitis(vii) severity of disease at diagnosis (viii) extraintestinal manifestations.

Extent of colitis was assessed by the first-time colonoscopy and was classified as ulcerative proctitis (E1), left-sided UC (E2), and extensive UC (E3) according to the Montreal classification of IBD.[18]

The disease severity was classified clinically according to Truelove and Witts criteria as mild, moderate, severe and fulminant colitis. [19]

## STATISTICS

All the data were collected as per standard prespecified Performa and all statistical analysis were performed with Statistical Package for Social Sciences version 20.0 software.

## RESULTS

A total of 60 patients presented to the Department of Gastroenterology during the study period. All of them were Nepalese. 31 patients were male and 29 patients were female. (M: F= 1.06:1). The mean age at diagnosis was 34.6 years with standard deviation of 12.7 years.
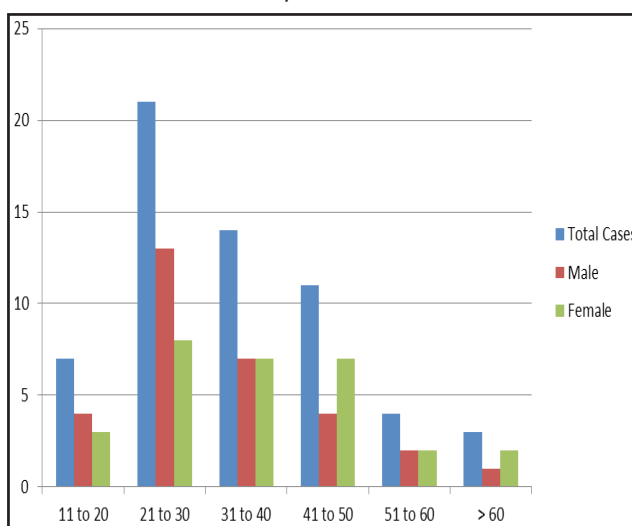


**Figure 1:** Demographic distribution of Patients

The mean duration of illness at diagnosis was 3.7 years with standard deviation of 4.87 years

At presentation 38.3% (n=23) had proctosigmoiditis, 50% (n=30) had left sided colitis and pancolitis was seen in 11.7% (n=7).

53.3% patients had mild disease, 38.3% and 8.3 % presented with moderate to severe disease respectively. 3.33% (n=2) had to undergo surgical therapeutic colectomy.
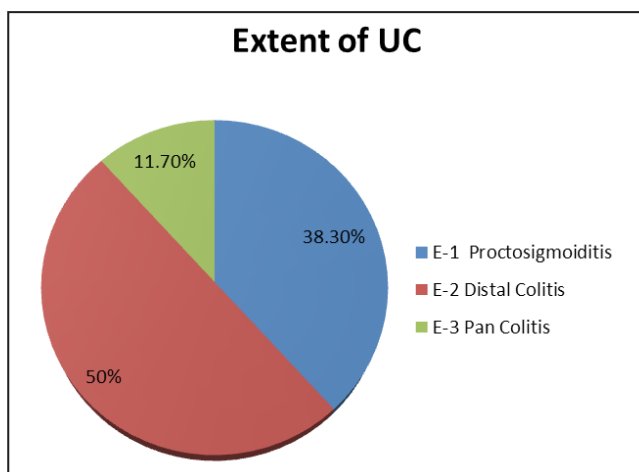
**Figure 2:** Extent of disease

Majority (86.7%), of the patients had clinical course of Chronic Intermittent type . Other two types were present with Chronic Continuous in 10%) and Acute Fulminant in 3.3% of cases.

**Table 1:** Extraintestinal manifestations

| Extraintestinal manifestations | Percentage (%) |
|---|---|
| Sacroilitis | 11.6 |
| Peripheral Arthitis | 6.66 |
| Episcleritis | 1.66 |
| Erythema Nodosum | 1.66 |
| Primary Sclerosing Cholangitis | 1.66 |

Extra intestinal manifestations were seen in 16.6% (n=10) of all cases Musculoskeletal symptoms were present in 13.3%(n=8); Sacroilitis being the most common EIM symptom manifesting in 11.6%(n=7).43 % of patients with sacroilitis also had peripheral arthritis Peripheral arthritis alone was also seen in 1.7% (n=1) .Episcleritis was present in 1.66% (n=1) .Primary Sclerosing Cholangitis and Erythema Nodosum was only seen in 1.6% (n=1) each.

## DISCUSSION

Ulcerative colitis should no longer be considered as a disease of Western countries. A number of studies showed that there is a rising prevalence of this disease across Asian countries.[20, 21, 22]

The present study identified important demographic information. This study reports peak age of onset in 3rd and 4th decade which is similar to reports from asia and western countries. Studies of western world even reports a second smaller peak in incidence seen typically in the 6th to 7th decade which has not been seen in this study and this finding is consistent with the studies from Asia. .[23,24,25]

This study shows that UC is distributed equally between males and females (M:F =1.06:1).The finding is similar to reports from

east and west parts of the world  that states that the gender distribution is almost equal for UC.

 A family history of UC  was previously noted to be uncommon among Asian studies, with a frequency ranging from 1.6% to 4.5% , which is considerably lower than the reported rates from Western series (8% -14%) [.4,20,23] This study also shows family aggregation in 1.6% which is very much similar to the Chinese studies.[26, 27]

Our study showed majority of disease is left sided colitis 50% and 11.7% of patient diagnosed as Pancoliitis whereas reports from western countries shows 27–62.7% of patients  suffering from pancolitis .[21,22] Similar findings were shown in many Asian reports mainly from Iran and China.[27,24]

Another significant result of this study is the delay in the diagnosis of Ulcerative Colitis in the Nepalese population. As per Turkish study 1.2 years duration of disease was considered to be late.[28] Our study reports 3.7 years duration of disease at diagnosis which is significantly delayed. There may be several explanations for this finding. First, non-specific initial symptoms of Ulcerative Colitis might be underrated by the patients. Secondly, higher prevalence of infectious diseases and common disorders such as haemorrhoids may have resulted in misdiagnosis of the disease. Thirdly, the negative attitudes of patients towards endoscopic procedures and lack of availability of the diagnostic facilities might also have contributed in the delay of the diagnosis.

Ulcerative colitis is a systemic disorder that often involves other organs. This involvement of other organs than intestine is known as Extra Intestinal Manifestations and often complicates its management and is a significant source of morbidity and mortality.[10]

This study shows Extra-intestinal manifestations were present in 16.6%, which was far less than that reported  from the Western countries reports of 25-47%.[12,13]  Indian studies also reports EIM from 4% to recent reports of 50.6 % from ISG task force .[29,30,31] Studies from China and Taiwan however have reported low EIM of 5-6%.[32]

Musculoskeletal system (13.3% )  is the most common Extra-intestinal manifestation   in this study. Reported prevalence of musculoskeletal Extra-intestinal manifestations in Inflammatory Bowel Disease patients ranges from 9% to 47%.[27,33, 6] Sacroilitis was seen in 11.6% patients, This findings is supported by the reports showing incidence of sacroilitis is up to 52% of the patients in UC.[29,30,34]  A study from Italy reports 50% of  UC patients have characteristic inflammatory low back pain in the absence of radiological findings suggestive of sacroileitis[35].43% of the patients diagnosed as sacroilitis in this study also had peripheral arthritis . Peripheral arthritis

alone was seen only in 1.6%.

Specifically for UC, the rates of Pyoderma Gangrenosum reported has been reported as high as 4% -5% and as low as 0.5% and 0.8% in various studies.[12,36,23]Rates for erythema nodosum have been reported in the range 0.9% to 4%.[12,37] This study does not report any case of Pyoderma Gangrenosum. Erythema Nodosum was seen on a lower side of 1.6% which is consistent to many western reports as well.

Ophthalmologic complication has been reported as 1to 4% in various studies.[12,33] This study does not report any case of uveitis and episcleritis was seen in only 1.7% which is very much consistent with the study from main land China.[27]

Primary Sclerosing Cholangitis is a disorder of both intrahepatic and extrahepatic bile ducts. The prevalence of Primary Sclerosing Cholangitis in Ulcerative Colitis has ranged from 2.4% to 7.4% amongst various studies .[38, 39] Previously, only scant reports of PSC in UC patients have been published, but no prevalence of such a condition has been reported in the Asia Pacifc. Our findings regarding PSC with a prevalence of 1.7% are consistent with the study in Taiwan but comparatively less than the reports from Iran and Western Europe.

## CONCLUSION:

Peak age of onset for Ulcerative Colitis in this study was found to be in the 3rd&4th decade which was similar to the various studies reported from Asia and Western countries. There was an absence of second peak in this study which is consistent with the studies from Asia but differs from the reports of Western world.

Extra –intestinal manifestations were low in our study as compared to studies reported from western world and few recent studies from India. Musculoskeletal manifestations were the most common Extra- intestinal manifestation of UC in the Nepalese population.

Delay in the diagnosis of Ulcerative Colitis was seen in the Nepalese population which might be related to the lack of awareness and health care resources.

As Nepal is perhaps the most diverse country in terms of ethnicity, cultural variation, socio-economic status and health care facilities, a comprehensive nationwide data bank involving ethnicity and geographical variation is needed for a better definition of the disease characteristics.

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