*ORIGINAL ARTICLE*

# ULCERATIVE COLITIS IN MALAYSIANS

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**ABSTRACT: A review of all colonic biopsies received by the Department of Pathology during a 8-year period revealed 41 cases of ulcerative colitis (UC). The diagnosis was based on histological and clinical features. The age range of patients was between 14 - 76 years with a median age of 35.4 years. The disease was more prevalent among Indians. The common presenting symptoms were diarrhoea (100%) and haematochezia (83%). The extent of colonic involvement varied. Twelve patients ( 29.2%) had pancolitis and 8 (19.5 %) had proctitis. Extraintestinal manifestations were rare and only one patient had pyoderma gangrenosum. One patient developed multifocal colorectal cancer 10 years after the inial diagnosis of UC and died 2 years later due to metastases. Histology plays an important role in the diagnosis and management of patients with UC. We noted a good correlation between clinical and pathological features. The most recent colonic biopsy showed features of chronic UC with activity in 34 cases and features of remission in 4 cases.** ***(JUMMEC 1996 1(2): 39-42)***

**KEY WORDS: Ulcerative colitis, Malaysians, pathology**

## Introduction

Ulcerative colitis (UC) is an idiopathic chronic inflammatory bowel disease which affects the mucosa of the large bowel Although it is an uncommon disease in Malaysia, it should be considered in the differential diagnoses of colitis. Careful histological examination of the colonic biopsy plays an important role in the diagnosis and management of patients with UC. This is a clinicopathological study of histologically proven cases of UC in the University Hospital over a period of 8-years.

## Materials and Method

Histological sections of all colonic biopsies received by the Department of Pathology, University Hospital, Kuala Lumpur between January 1986 and December 1993 were reviewed. Special stains such as periodic acid Schiff were done when necessary to rule out parasitic infection. Clinical information was obtained from the request forms accompanying the biopsies and from the patient records.

The final diagnosis of UC was based on the clinical features, colonoscopic findings, histology and stool examination and culture, and in some cases barium enema findings.

Multiple biopsies were done in patients when the clinical diagnosis of relapse, dysplasia or infection was considered.

## Results

Colonic biopsies of 41 patients with UC were received between 1986 and 1993, of which 14 cases had been diagnosed to have UC earlier based on clinical and histological findings. There were 24 males with a male to female ratio of 1:0.7.The age range of patients at the time of initial clinical presentation was between 14 to 76 years and the median age was 35.4 years.

The racial distribution of patients was as follows: 17 Chinese (41.5%), 8 Malay (19.5%) and 16 Indians (39.0%). Indians formed 27.0 % of the Hospital attendance of the University Hospital during the period of study. Compared with these baselines (Table 1), there appears to be a higher prevalence of UC among Indians ($p < 0.01$).Table 1 shows the distribution of cases with UC and the total number of patients seen in the University Hospital during the study period with regard to ethnic distribution.

### *Clinical features*

All the patients presented with a history of diarrhoea. The diarrhoea was bloody in 34 (83%) and mucoid in 15 (36.5 %) patients respectively. Twelve patients (29.3%) had total colitis and 8 (19.5%) had only proctitis. The disease involved the recto - sigmoid region in 9

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patients (21.9% ) and extended up to the splenic flexure in 12 patients (29.3 %). Only 1 patient had extraintestinal manifestations such as pyoderma gangrenosum. None of the patients had arthritis or involvement of the hepatobiliary system. The duration of the clinical symptoms was 2 weeks (3 cases), 1 to 2 months (28 cases), 3 months to 1 year ( 4 cases), and 1 to 3 years (5 cases). One patient presented at the age of 29 years with a 12-year history of bloody diarrhoea.

**Table 1:** Ethnic distribution of patients with Ulcerative colitis (UC) and total Hospital admissions between 1986-1993.

| | Chinese | Malays | Indian |
|---|---|---|---|
| | No (%) | No (%) | No (%) |
| Patients with UC | 17 (41.5) | 8 (19.5) | 16 ( 39) |
| Hospital admissions | 63,924 (29.5) | 91,444 (42.2) | 58,507 (27) |

$p < 0.01$

A female patient presented at the age of 15 years with a one -year history of bloody diarrhoea. Biopsy showed UC. She was on treatment and was on regular follow-up for eight years . Three biopsies were done during this period and showed active, chronic colitis. She did not attend the clinic for 2 years subsequently and consulted the physician again at the age of 25 years for bloody diarrhoea. Colonoscopy at that time showed tumours at the caecum, transverse and descending colon. At surgery, moderately differentiated adenocarcinoma was noted at the sites, invading up to the serosa with spread to regional lymph nodes (Dukes C). Two years following colectomy, she had bilateral Krukenberg tumours and succumbed within a year.

### *Complications*

Two patients were treated with colectomy, one of whom had severe colitis resistant to treatment and the other suffered accidental perforation during colonoscopy.

### *Pathology*

There was a good correlation between clinical, endoscopic and histological findings in all cases in this study. Microscopic features in the most recent biopsy in 38 cases showed chronic UC with activity in 34 cases and chronic UC in remission in 4 cases. The common findings in active disease were crypt abscess (Fig 1), crypt loss and crypt distortion (Fig 2). The histological findings are summarised in Table 2.

**Table 2.** Histological features observed in 38 cases of UlcerativeColitis

| | No | % |
|---|---|---|
| **Chronic UC with activity (34 cases)** | | |
| Focal mucosal ulceration | 30 | 88.2 |
| Inflammation of crypts cryptitis and abscess | 31 | 91.1 |
| Crypt distortion | 31 | 91.1 |
| Mucus depletion | 28 | 82.3 |
| Inflammatory infiltrate in lamina propria (polymorphs, lymphocytes and plasma cells) | 34 | 100 |
| Villous metaplasia | 11 | 32.3 |
| Inflammatory polyp | 8 | 23.5 |
| Severe dysplasia | 0 | 0.0 |
| **Chronic UC in remission (4 cases)** | | |
| Crypt distortion | 4 | 100 |
| Inflammation in crypts and lamina propria | 0 | 0.0 |
| Metaplasia | 0 | 0.0 |
| Dysplasia | 0 | 0.0 |

## Discussion

Ulcerative colitis (UC) , is still an uncommon disease in Malaysia. Only a few reports from the local population have been published (1,2)

In this study, we noted that Indians appear to be more commonly affected when compared with the other races. Similar observations were noted in a Malaysian study done by Thien-Hut (2) and neighbouring Singapore (3). An epidemiological study done by Probert *et al* (4) showed that South Asians in Leicestershire in England have twice the risk for UC compared with Europeans. The risk was greatest in Hindus and Sikhs. In our study, of the 16 cases of Indians, 15 were Hindus and 1 was Sikh. The role of diet and genetic factors in the causation of UC has to be investigated as a possible aetiological factor for the higher incidence of UC among Indians.

The aetiology of UC remains unknown. There has been no evidence of a causal relationship between any microbial agent and UC. Research studies indicate that UC is an autoimmune disease. Autoantibodies to perinuclear cytoplasmic components of neutrophils (pANCA) is found in 60-70% of patients with UC (5). Yang *et al* (6) have noted an association between UC

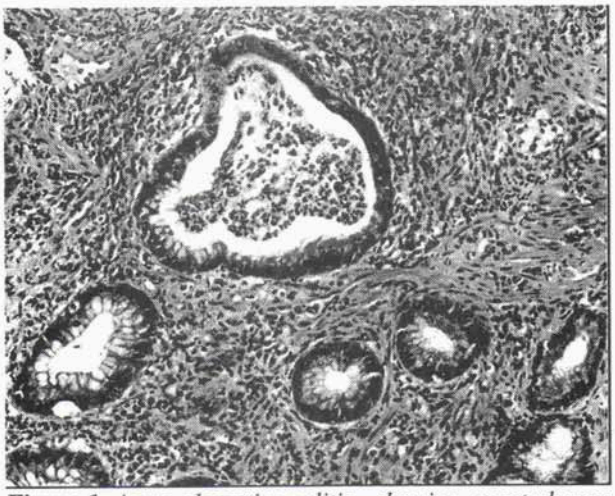

**Figure 1.** *Acute ulcerative colitis , showing crypt abscess and inflammation of lamina propria. Haematoxylin and eosin X 200.*

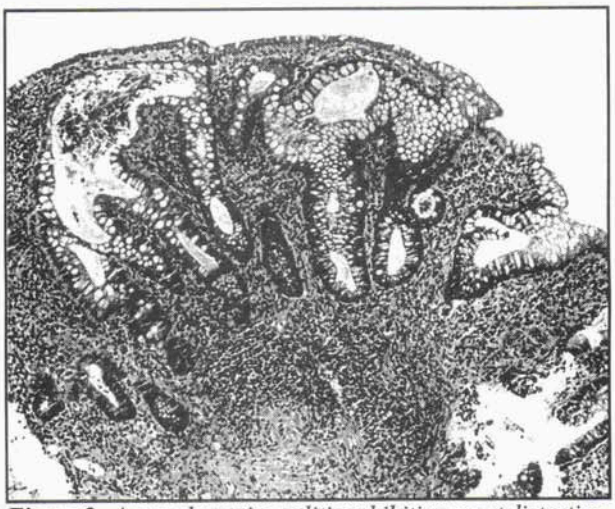

***Figure 2.*** *Acute ulcerative colitis exhibiting crypt distortion. Haematoxylin and eosin X 40.*

and HLA-DR2 antigen. Patients suffering from UC who are HLA-DR 2 positive are likely to have pANCA antibodies. Thus it appears that pANCA autoantibodies identify a group of UC patients with a genetic predisposition. An increased level of immune stimulation in patients with inflammatory bowel disease (IBD) has been documented. Patients with IBD have a high number of activated T lymphocytes in the lamina propria of the intestine. T cells have the capacity to perform a variety of activities upon contact with pathogens and in healthy people, resulting in clearance of the pathogen. Probably, T lymphocytes in patients with BD have qualitative and/or quantitative disturbance in antigen specificity and reactivity to microbial antigen. As a result, exposure to bacterial antigens in the gut lumen causes intestinal inflammation (7).

The differentiation of UC from infective colitis poses a problem to the clinician. Patients with UC usually have an insidious onset and present with diarrhoea. Infective colitis is generally characterised by an acute onset of bloody diarrhoea, high fever and abdominal cramps (8). However, concurrent infection, traveling abroad and treatment with antibiotics may alter the initial symptom of UC to more acute infectious colitis like features. This is due to alteration of the intestinal flora. Stool culture should be done in all cases of diarrhoea. In published studies, positive stool culture was found in 50 - 73% of patients with acute, presumably infectious diarrhoeal disease (9,10). Sigmoidoscopy may not differentiate UC from infective colitis with any degree of certainty. Thus histopathology is a reliable diagnostic tool for the differentiation of UC from infective colitis (11). The features of UC can be found as early as one week in a first attack of UC and these include plasma cell infiltration in the lamina propria extending up to the mucosal base and crypt changes such as crypt distortion and crypt atrophy (12). The differentiation of UC from Crohn's disease should be based on all evidence including clinical, radiological, endoscopic findings and histology (13). In our study, none of the patients with UC had epitheloid cell granuloma and all biopsies showed diffuse inflammation. The final diagnosis was a correlative clinico-pathological one.

It is well known that there is an increased risk of colorectal carcinoma in patients with UC. The risk is greatest among patients with pancolitis. The cumulative possibility of developing carcinoma is about 3% at 15 years and 5% at 20 years (14) . Colonoscopy with biopsies is advisable at regular intervals after the duration of disease reaches 10 years. Dysplasia is a marker of malignant potential. However, it is a descriptive finding and subject to intra and inter observer variation (15). Dysplasia is patchy and small biopsy specimens may not show it. The most reliable clinical marker of dysplasia is a proliferative lesion such as a villous or polypoid area on endoscopy (16). A single report of low grade dysplasia (mild ) is an indication for increased vigilance. Patients with high grade dysplasia in a proliferative lesion should be advised surgery (14). In our study, none of the cases showed high grade dysplasia. Nine patients in our study, with UC of more than 10 years duration are on regular follow-up and a recent biopsy in all these cases showed no severe dysplasia.

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