

# Inflammatory bowel disease in Cape Town, 1975-1980

## Part I. Ulcerative colitis

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### Summary

Previously documented and new patients with ulcerative colitis seen between 1975 and 1980 in the Gastro-intestinal Clinic of Groote Schuur Hospital were studied to establish the local incidence and clinical features of this disease. There were 220 patients and the mean follow-up was  $7,7 \pm 0,4$  years. Sixty per cent of patients were White, 37% Coloured and 3% Black. The incidence for the Coloured and White population was calculated to be 1,3 and 2,4/100 000 per year during 1970-1974 and 1,6 and 2,1/100 000 per year during 1975-1980, respectively. In Jews the rates were 8,5 and 10,4/100 000 per year for the two periods. Insufficient data are available to calculate an incidence for the Black population.

The disease was limited to less than 15 cm above the anus in 14% of patients, to the rectosigmoid colon in 45%, and to the rest of the colon in 40%. Although the severity of symptoms was related to the extent of disease, 22% of patients with extensive colitis had mild symptoms, while 15% with disease limited to the rectum had severe symptoms. The clinical features were similar in the White and Coloured population groups. A total colectomy was performed on 20% of patients with extensive colitis; in 2% the disease was complicated by colonic carcinoma.

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Ulcerative colitis is a well-recognized entity in the White population of South Africa but its occurrence in the Coloured and Black populations is less well documented. This is largely due to the high incidence of chronic diarrhoea from other causes among Blacks, and to the lack of multiracial studies on ulcerative colitis in South Africa. In view of this, an intensive study was made of all patients with inflammatory bowel disease seen in the Gastro-intestinal Clinic of Groote Schuur Hospital between 1975 and 1980, to establish the incidence of ulcerative colitis and Crohn's

disease, their pattern of presentation and subsequent clinical course.

We report our experience with Crohn's disease in a companion paper in this issue.<sup>1</sup>

### Subjects and methods

All patients seen for the first time or followed up at the clinic between 1975 and 1980 have been included in this study. These patients were referred by both general practitioners and specialists, and therefore represent a mixture of primary, secondary and occasionally tertiary referrals. Although the majority were referred from the Cape Town area, approximately 10% came from elsewhere in South Africa.

The diagnosis of ulcerative colitis was made on the basis of a compatible history supported by sigmoidoscopic and radiographic appearances with double-contrast barium enema studies and in the absence of primary bacterial or amoebic infection. All patients had rectal scrapings taken at the time of diagnosis to exclude amoebiasis. In patients with colitis proximal to the splenic flexure colonoscopy was performed to determine the exact extent of the disease.

The grading of severity of colitis was based on the classification of Truelove and Witts,<sup>2</sup> according to which patients who pass more than 6 diarrhoea stools per day, are pyrexial, have a haemoglobin value below 10 g/dl and an ESR above 30 mm/1st h are graded as having severe disease, while those with less than 4 diarrhoea stools per day without pyrexia, anaemia or a raised ESR are graded as having mild disease. Patients between these two grades were said to have moderately severe disease.

Proctitis was defined as inflammation up to 15 cm from the anal margin, rectosigmoiditis as inflammation up to the sigmoid/descending colon junction, and extensive colitis as involvement of the rest of the colon but not necessarily of the whole colon. The term total colitis refers specifically to involvement of the whole colon, including the ascending colon.

Only patients resident in the Cape Town area at the time of diagnosis have been used in calculating the incidence rates. The population of the area was estimated on the basis of the 1971 Census figures to consist of 371 000 Whites (including 21 000 Jews), 346 000 Coloureds, and 110 000 domiciled and migrant Blacks.

### Results

Two hundred and twenty patients with a mean ( $\pm$  SEM) follow-up of  $7,7 \pm 0,4$  years were studied. Of these, 60% were from the White, 37% from the Coloured and 3% from the Black population groups. Jews constituted 33% of patients in the White group. The male/female ratio was 47/53. The age distribution at presentation is shown in Fig. 1.

The number of new cases of ulcerative colitis diagnosed each year appears to have increased during the 1970-1977 period (Fig.

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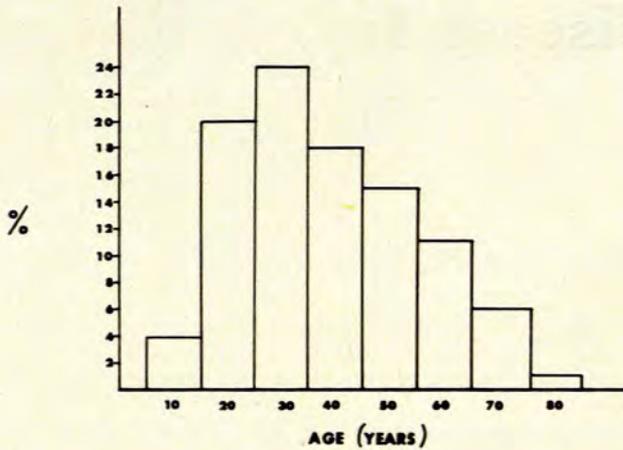


Fig. 1. Age distribution of patients presenting for the first time with ulcerative colitis.

2) but it is of interest that during the same period the number of patients who developed the first symptoms of ulcerative colitis shows a similar pattern each year (Fig. 3). The incidence rate in the Coloured population increased from 1,3/100 000 per year during the years 1970-1974 to 1,6/100 000 per year during the years 1975-1980. In Whites the incidence remained fairly constant; in non-Jews the incidence was 2,4/100 000 per year during the first 5 years and 2,1/100 000 per year during the second 5 years. In Jews the rate was 8,5 and 10,4/100 000 per year respectively. Although the uncertain size of the migrant component of the Black population precludes the calculation of meaningful incidence figures, the data nevertheless indicate that they are

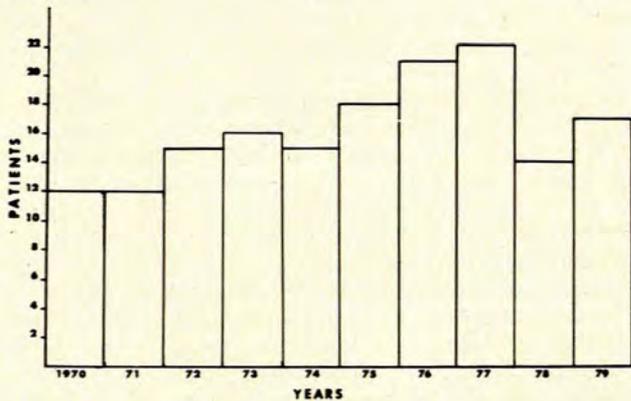


Fig. 2. Number of patients diagnosed each year as having ulcerative colitis.

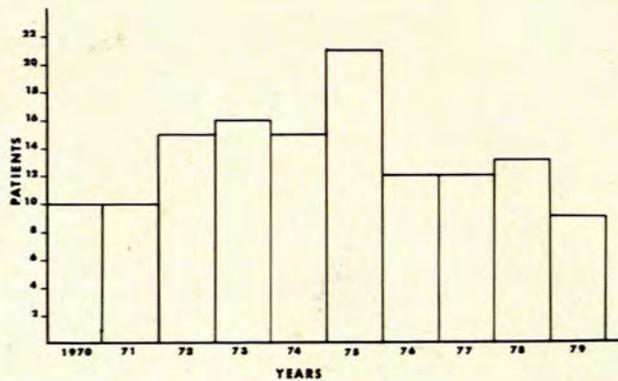


Fig. 3. Number of patients developing symptoms of ulcerative colitis for the first time each year (data collected retrospectively).

appreciably lower than those in Whites and Coloureds in the Cape Town area.

The distribution of the disease when first diagnosed (Fig. 4) was similar in the different population groups. The delay between onset of symptoms and diagnosis was  $30,4 \pm 5,1$  months (median 9 months). Patients with disease limited to the rectum tended to present sooner after onset of symptoms than those with more extensive disease, the relative delay in diagnosis being  $16,6 \pm 10,9$  and  $32,5 \pm 5,5$  months (medians 4 and 9 months respectively). There was also a trend for White patients, and particularly Jews, to present with mild as opposed to moderate or severe disease when compared with Coloured patients (Table I).

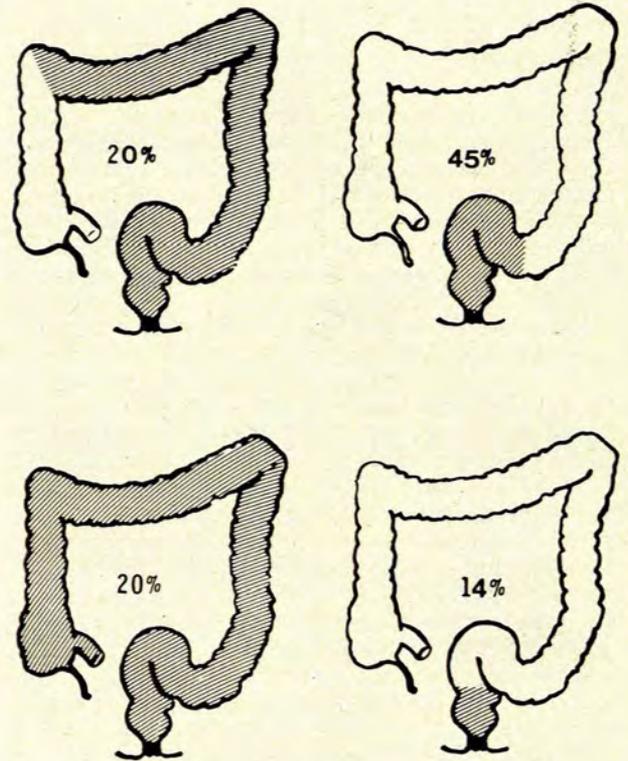


Fig. 4. Distribution of ulcerative colitis on presentation.

	Mild	Moderate/severe
Whites		
Jews	42%	58%
Non-Jews	34%	66%
Coloureds	25%	75%

Although the severity of symptoms at the time of diagnosis was related to the extent of disease, 22% of those with extensive colitis had mild symptoms indistinguishable from those with proctitis, while 15% of those with proctitis had severe symptoms (Table II).

The presenting symptom was diarrhoea in 84% of patients and rectal bleeding unassociated with documented diarrhoea in 14%. In the remaining 2% a variety of problems including anaemia, arthritis and biliary disease led to the investigations which revealed the underlying ulcerative colitis.

A first- or second-degree family member had been diagnosed as having inflammatory bowel disease in 10% of cases. In addition to those who presented with rectal bleeding a further 8% had had previous operations for haemorrhoids by the time of diagnosis. Other associated conditions are presented in Table III.

**TABLE II. RELATIONSHIP BETWEEN SEVERITY AND EXTENT OF DISEASE**

	Proctitis	Recto-sigmoiditis	Extensive colitis
Mild	20 (65,4%)	33 (33,0%)	20 (22,4%)
Moderate	6 (19,2%)	40 (40,0%)	25 (28,2%)
Severe	5 (15,4%)	27 (27,0%)	44 (49,4%)
Total No.	31	100	89

**TABLE III. ASSOCIATED FEATURES AND COMPLICATIONS**

Family history	10%
Previous stress-induced diarrhoea	20%
Erythema nodosum	2%
Pyoderma gangrenosum	2%
Arthralgia/arthritis	27%
Ankylosing spondylitis	5%
Overt liver disease	5%
Eye complications	3%
Anal fissure	5%
Ischiorectal abscess	5%
Pseudopolypoid	11%
Colonic stricture	4%
Colonic perforation	1%
Massive colonic haemorrhage	1%

The clinical course after diagnosis is generally related to the extent of disease, although this did not appear to affect the clinical remission rate (Table IV). Most patients with limited left-sided colonic disease continued having symptoms but these seldom warranted surgery, whereas 20% of those with extensive colitis eventually had a colectomy. The initial severity of the attack also tended to influence subsequent disease activity; 74% of those with a mild onset continued with mild symptoms, compared with 51% of those with moderate or severe symptoms during the initial attack.

**TABLE IV. NATURAL HISTORY AND EXTENT OF DISEASE**

	Extensive colitis	Recto-sigmoiditis	Proctitis
Total			
colectomy	18 (20%)	3 (3%)	0 (0%)
Extension of disease	23 (26%)	9 (9%)	0 (0%)
Remission	11 (12%)	10 (10%)	3 (10%)
Developed carcinoma	2 (2%)	0 (0%)	0 (0%)

## Complications

Toxic megacolon occurred in 9% of patients, including 4% who presented with this complication. Two of 17 patients in whom total colitis had been documented more than 10 years previously developed carcinoma of the colon, and died during the period of this study. One was a 42-year-old man who had had total colitis for 11 years and then developed a carcinoma of the caecum. A right hemicolectomy was performed but he died a year later with extensive metastatic spread. The second patient was a 31-year-old man with total colitis for 16 years who was found to have separate carcinomas in the caecum, the ascending colon and the rectum. He had a total proctocolectomy but died within a year.

Another patient developed a cholangiocarcinoma and died 7 years after being diagnosed as having ulcerative colitis extending to the splenic flexure.

The other recognized complications are shown in Table III; no fewer than 20% of patients gave a past history of stress-induced diarrhoea. (Patients with hepatobiliary complications are being reported in a companion paper by Tobias *et al.*<sup>3</sup>) In addition to the 3 mentioned above, 5 patients died during this study; 2 had an acute fulminating course, 1 had a lymphoma and 2 had a myocardial infarction.

## Discussion

This study of 220 patients with ulcerative colitis shows that the disease as seen in our clinic, at least among the Whites and Coloureds, is similar to that seen elsewhere in the world.<sup>4</sup>

The incidence of ulcerative colitis as calculated in this study is an approximation, due in part to the difficulties in obtaining accurate population statistics in a mobile population, and the uncertain referral pattern of gastro-intestinal problems in the area. This applies particularly to the data for the period between 1970 and 1975 which were gathered retrospectively. Nevertheless, it would seem that the incidence in the Coloured population has increased somewhat, while that in Whites has remained constant at a level below that reported in North America<sup>5</sup> and Western Europe.<sup>6,7</sup> Our data support the observation of previous investigators that the disease is relatively rare in the Black population<sup>8</sup> and apparently commoner in Jews than in non-Jews,<sup>9</sup> although this higher incidence does not appear to apply to Jews in Israel.<sup>10</sup> The reason for the somewhat lower incidence of ulcerative colitis in the Cape Town area than in other Western countries is unknown. Epidemiological data, particularly on the Black population, may provide some answers in the future as the disease may become commoner in this population group as urbanization increases.

Patients with disease limited to the rectosigmoid colon had a negligible surgical rate and carcinoma risk. These patients, and particularly those with less than 15 cm of the rectum involved, had a good prognosis as far as extension of disease, surgery and carcinoma were concerned, although the majority continued to have intermittent symptoms. The observation that 22% of patients with total colitis had mild symptoms on presentation highlights the need for full investigation of all patients with proctitis on sigmoidoscopy. On the other hand, others with a short, severe initial illness went into remission or continued with only mild symptoms for many years.

The incidence of colonic carcinoma is in agreement with the reported incidence of approximately 20% after 20 years in patients with total colitis.<sup>11</sup> An important factor in the management of patients with total colitis is regular follow-up with mucosal biopsy to detect early dysplastic changes which may precede the development of carcinoma.<sup>12</sup> To this end, all patients with total colitis of more than 10 years' duration should probably have an annual complete colonoscopy and multiple endoscopic biopsies of the mucosa to detect these changes.

Although the cause of ulcerative colitis remains unknown, most authors invoke a psychosomatic disorder as a possible factor.<sup>13</sup> The finding of a past history of stress-induced diarrhoea in 20% of our patients would appear to be in keeping with this, but is clearly at variance with the opinion of some authorities. Indeed, Hawkins<sup>14</sup> has stated that patients with irritable or spastic colon 'seldom if ever develop colitis'.

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