Inflammatory bowel disease in Cape Town, 1975-1980

Part II. Crohn's disease

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Summary

Patients with Crohn's disease seen in the Gastro-intestinal Clinic of Groote Schuur Hospital between 1975 and 1980 were studied to establish the incidence and clinical features of this disease. There were 117 patients and the mean (± SEM) follow-up was 6,1 ± 0,5 years. Of these patients 72% were White, 37% Coloured and 1% Black. The incidence for the Coloured and White population groups was calculated to be 0,4 and 0,9/100 000 per year during 1970-1974 and 1,3 and 1,2/100 000 per year during 1975-1980 respectively. In Jews the rates were 5,0 and 7,2/100 000 per year for the two periods. Insufficient data are available to calculate an incidence for the Black population.

The disease involved the ileum in 39%, the colon in 17% and both areas in 44% of patients. At presentation 18% of patients had mild, 37% moderate, and 45% severe disease. The severity of symptoms was not related to the extent of the disease. A peri-anal fistula was present in 24% of patients. There was no difference in clinical features between the different population groups. Surgical resection had been performed in 50% of patients and 29% of these had had two or more resections. The surgical rate in the ileitis group was 63%, in the ileocolitis group 49% and in those with colitis 20%.

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The incidence of inflammatory bowel disease appears to have increased in South Africa over the last few years. In particular, Crohn's disease is being diagnosed more frequently and is now becoming the major type of inflammatory bowel disease in both Coloured and White patients seen at Groote Schuur Hospital's Gastro-intestinal Clinic. Novis *et al.*,[1] from this clinic, reported an incidence of 0,8 and 0,4/100 000 per year for the White and Coloured populations respectively for the period 1970-1974, figures very much lower than those reported in Western Europe.[2] An intensive study was therefore made of all patients with inflammatory bowel disease seen in the Gastro-intestinal Clinic at Groote Schuur Hospital between 1975 and 1980 to establish the incidence of Crohn's disease as well as that of ulcerative colitis, their pattern of presentation and the frequency of surgical intervention.

We report our experience with ulcerative colitis in a companion paper in this issue.[3]

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. Patients were referred by both general practitioners and specialists and therefore represent a mixture of primary, secondary and occasionally tertiary referrals. Although the majority came from the Cape Town area, 18% were referred from elsewhere in South Africa. Patients followed up included patients first seen by Novis *et al.*[1] between 1970 and 1974. The data on incidence between 1970 and 1974 were adjusted by the addition of patients seen during the study period but in fact diagnosed between 1970 and 1974.

The diagnosis of Crohn's disease was based on a compatible history, a typical radiographic appearance on double-contrast barium examination, compatible histological features and the absence of gastro-intestinal infections such as *Yersinia* infection and tuberculosis.

The grading of severity of disease was based on the classification of Truelove and Witts[4] 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 mild. Patients between these two grades were graded as having moderately severe disease. Although the classification was primarily designed for ulcerative colitis, it proved useful in both forms of inflammatory bowel disease during this study. Crohn's colitis is defined as involvement of the colon only, ileitis as involvement of the ileum, and ileocolitis as involvement of both areas.

Only patients resident in the Cape Town area at the time of diagnosis have been used to calculate 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

One hundred and seventeen patients with a mean (±SEM) follow-up of 6,1 ± 0,5 years were studied. Of these, 72% were from the White and 27% from the Coloured group; only 1 patient was Black. Jews constituted 29% of the patients in the White group. The male/female ratio was 37/63. The age distribution is shown in Fig. 1.

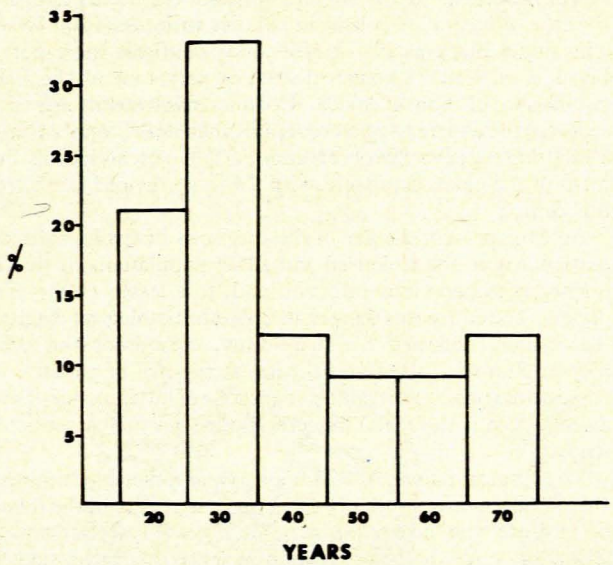

Fig. 1. Age distribution of patients presenting for the first time with Crohn's disease.

The number of new cases of Crohn's disease diagnosed each year has increased during the study (Fig. 2). In retrospect, the number of patients who developed symptoms each year showed a similar increase (Fig. 3). The incidence rate in the Coloured population increased from 0,4/100 000 during the years 1970-1975 to 1,3/100 000 per year during the years 1975-1980. There was also an increase in the incidence in Whites. In non-Jews it increased from 0,9/100 000 during the first period to 1,2/100 000 per year during the second period, and in Jews from 5,0 to 7,2/100 000 per year respectively. Although there are insufficient data available to calculate a rate for the Black population of Cape Town, the data indicate that it is appreciably lower than for the White and Coloured groups.

The distribution of disease on first diagnosis is shown in Fig. 4; it was similar in the different population groups. The delay between onset of symptoms and diagnosis was 27,1 ± 4,9 months (median 9 months). There was no difference as regards delay between onset of symptoms and diagnosis in the different racial groups. There was, however, a trend for patients with Crohn's

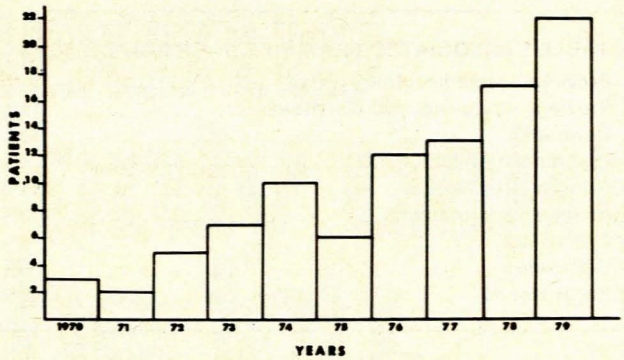

Fig. 2. Number of patients diagnosed as having Crohn's disease each year.

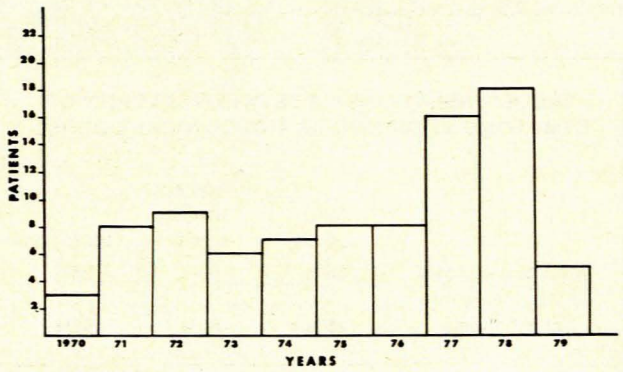

Fig. 3. Number of patients developing symptoms of Crohn's disease for the first time each year (data collected retrospectively).

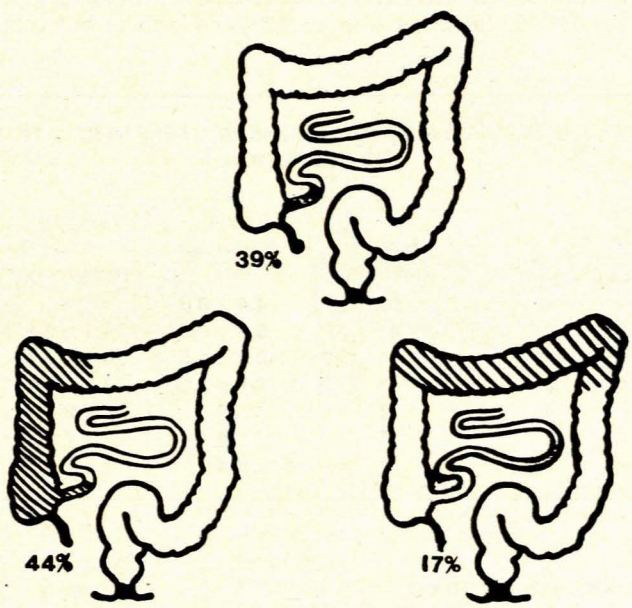

Fig. 4. Distribution of Crohn's disease.

colitis to present earlier than those with small-bowel involvement: 22,3 ± 9,5 v. 28,2 ± 5,8 months (median 4 and 9 months respectively). At presentation 18% of patients had mild disease, 37% moderate disease, and 45% severe disease. The severity of symptoms at the time of diagnosis was not related to either the extent of the disease or the population group.

A first- or second-degree family member had been diagnosed as having inflammatory bowel disease in 7% of cases. Other associated conditions are presented in Table I.

TABLE I. ASSOCIATED FEATURES IN CROHN'S DISEASE

Previous appendicectomy	21%
Previous stress-induced diarrhoea	15%
Dermatitis	13%
Erythema nodosum	5%
Arthritis/arthralgia	11%
Ankylosing spondylitis	3%
Eye disease	8%
Gallstones	5%
Renal stones	4%

There was little relationship between the severity of the initial attack and subsequent disease activity, but the frequency of surgical intervention tended to be higher in patients with moderate to severe disease at diagnosis (Table II).

TABLE II. RELATIONSHIP BETWEEN SEVERITY OF SYMPTOMS AT DIAGNOSIS AND CLINICAL COURSE

	Mild course	Moderate/severe course	Operation
Mild at diagnosis	33%	66%	25%
Moderate/severe at diagnosis	20%	80%	56%

Surgical resection had been performed in 58 (50%) of patients at the time of follow-up and 17 (29%) of these had had two or more resections (Table III). The surgical rate in the ileitis group was 63%, in the ileocolitis group 49%, and in those with colitis 20%.

TABLE III. FOLLOW-UP PERIOD (MEAN ± SEM) IN RELATION TO OPERATION

No. of resections	No. of patients	Total follow-up (yrs)	Follow-up since resection (yrs)
0	59	4,4 ± 0,6	—
1	41	5,8 ± 0,9	4,1 ± 0,5
2	11	10,9 ± 1,9	5,1 ± 0,7
3	3	9,7 ± 3,4	4,2 ± 1,5
4	1	30	2
5	1	14	7
6	1	28	6

Complications

Peri-anal fistula was the most troublesome complication (24% of patients), while rectovaginal fistulas developed in 6% of women. Entero-enteric fistulas were present in 13% of patients. (Patients with hepatobiliary complications are reported in a companion paper by Tobias *et al.*[5])

During this study 7 patients died, 3 postoperatively, 2 from ongoing sepsis and 2 from unrelated causes.

Discussion

This study shows that the incidence of Crohn's disease in the Cape Town area has been increasing during the last 10 years. It has now become the commonest inflammatory bowel disease seen in our clinic and has similar clinical features to those reported in other series.[6] No difference other than in incidence could be demonstrated between the different population groups.

The slight increase in numbers of patients presenting in the 60-70-year age group has been reported previously.[2] The possibility that this represented a group of patients with missed ischaemic disease was considered but could not be substantiated. The distribution of disease in these patients was similar to that in the younger patients.

There were only 3 patients aged under 20 years in this study, the youngest being 13 years old. This apparent lack of young patients was confirmed by the paediatricians in the area.

Our incidence figures of 1,2 and 1,3/100 000 per year for the White and Coloured population groups during 1975-1980 are higher than those for the period 1970-1974. We believe this to be a true increase and not due to the recent diagnosis of previously missed cases or the earlier diagnosis of new cases. The increase in patients developing symptoms each year confirms this observation. It will be of interest to see if the incidence in Cape Town approaches that of Western Europe, where a figure of 4,8/100 000 per year has been reported.[7] The apparently higher incidence in Jews than in non-Jews is in keeping with the North American[8] and Western European[7] experience and, as in the case of ulcerative colitis, in conflict with data from Israel.[9] The single Black patient in this study confirms the report of Segal *et al.*[10] that Crohn's disease is very rare in the Black population of South Africa. Colonic involvement has been reported to be increasing more rapidly than ileal Crohn's disease. This study supports this observation; 17% of patients had involvement of the colon compared with 9% in a previous series from this clinic.[1]

An ever-present danger in the diagnosis of Crohn's disease, particularly in the Coloured and Black populations, is the frequency of tuberculous infection and, to a lesser extent, lymphoma. To reduce this danger an accurate histological diagnosis was usually obtained by laparotomy, colonoscopy or rectal biopsy. Biopsy is often useful because 5 - 30% of patients will have histological abnormalities suggestive of inflammatory bowel disease even if the rectal mucosa appears normal at sigmoidoscopy.[11,12]

The surgical rate of 50% with a 6,1-year follow-up is comparable to that in other series.[13] The similarity between the follow-up of those who have not undergone surgical resection and the follow-up since the last operation of those that have, suggests that the number of patients operated upon is related to the period of follow-up. This has been confirmed by Hellers,[13] who reported a surgical rate of 84% after a follow-up of approximately 10 years.

The long-term prognosis of patients with Crohn's disease has traditionally been viewed as unfavourable but this may not necessarily be so. Although our follow-up is too short to reach any definite conclusions, Hellers'[13] Swedish data suggest that Crohn's disease may become relatively quiescent after 10 - 15 years.

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