Medium-term follow-up of Crohn's disease in Cape Town

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Summary

The 82 cases of Crohn's disease diagnosed in Greater Cape Town between 1970 and 1979 were followed up after a median time of 9,6 years from diagnosis. Sixty patients were contacted; 6 had died and 16 were not available for follow-up. Only 1 death was disease-related. Mortality in Crohn's disease was not increased. There were no cases of carcinoma of the colon. At diagnosis most patients had had moderately severe disease, and 10 years later, 80% had mild-to-moderate symptoms.

The 5-year resection rate was 46% and the 10-year rate 68%; 23% of patients required a second resection within 5 years of the first, and 42% within 10 years. Surgery occurred earlier in those with ileitis.

Ten patients were over the age of 60 years at diagnosis; there was no apparent difference between the extent of their disease and that in the group as a whole. However, the elderly patients appeared to have a better prognosis — 59% having been symptom-free for more than 1 year, and none having required a second resection.

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Most surveys of Crohn's disease have been based on series from special centres which tend to include an excess of patients with severe disease.[1,2] In this study a consecutive group of Crohn's patients diagnosed between 1970 and 1979 in Greater Cape Town was followed-up to present a more balanced view of the disease.

Since it has recently been suggested that Crohn's disease in elderly patients has a more favourable prognosis, with low recurrence rates after initial surgical resection,[3,4] particular notice was taken in this study of those patients over 60 years of age at diagnosis.

Subjects and methods

The University of Cape Town Inflammatory Bowel Disease Register is a computerised database set up to record details of all known cases of Crohn's disease and ulcerative colitis diagnosed in the Greater Cape Town area (magisterial districts of Bellville, Goodwood, Wynberg, Simon's Town and Cape Town). It was used to select patients with Crohn's disease diagnosed between 1970 and 1979 inclusive, who fulfilled the diagnostic criteria of Lockhart-Mummery and Morson.[5] The extent of disease at diagnosis had been determined by small bowel enema and double-contrast barium enema. The grading of severity of disease was based on the classification of Truelove and Witts.[6]

Patients were interviewed to confirm past details of their disease, including surgery, current clinical status, and to ascertain if they were on any regular medication for Crohn's disease or attending a doctor or clinic outside Groote Schuur Hospital.

Details of the operations, histological findings in operative specimens and follow-up were obtained from the surgeon concerned.

Where patients had died and information as to the date and cause of death was not forthcoming, the Registry of Births and Deaths in Cape Town was contacted for detailed information.

Mortality for the general population was obtained from Central Statistical Services. A mean of the figures obtained from the 1970 and 1980 population censuses for the 5 magisterial districts which make up Greater Cape Town was used.

Normally distributed data, such as age, were tested in the different groups by Student's *t*-test, while most of the follow-up data were not normally distributed and were therefore tested by non-parametric methods. Discrete data were tested by means of the chi-square test. The follow-up data were tested by life-table analysis and the generalised Wilcoxon test. The level of significance was taken as $P < 0,05$.

Results

There were 82 patients who fulfilled the criteria for inclusion in the study. Sixty patients were followed-up between May 1987 and March 1988 at a median time of 9,6 years (range 7,3 - 17,0 years) from diagnosis. A further 22 patients were not included in the study; of these, 14 (6 of whom had died) were followed-up for a limited period of time (median 3 years, range 1 - 14 years) and 8 patients were lost to follow-up soon after diagnosis. The extent of disease in the 22 patients not included was not significantly different from the patients followed-up. Neither was there any significant difference in the race or sex of these patients.

The clinical status of the patients at follow-up is shown in Table I.

TABLE I. CROHN'S DISEASE PATIENTS AT FOLLOW-UP

	No. of patients	%
In remission	**12**	**20**
Intermittent symptoms	**40**	**67**
Constant symptoms	**8**	**13**
Total	**60**	

Of the 6 patients who had died (Table II), only 1 death was related to the disease. This patient had Crohn's colitis and died 8 years after diagnosis from cardiac arrest presumed to have been caused by electrolyte imbalance during an attack of diarrhoea away from Groote Schuur Hospital. This gave an overall mortality rate of 0,95%, which is similar to the 1,79% mortality rate for the general population in Greater Cape Town over the same time period.

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TABLE II. CAUSES OF DEATH IN CROHN'S DISEASE PATIENTS

Cause	No. of patients
Crohn's disease	1
Ischaemic heart disease	2
Carcinoma of pancreas	1
Senile dementia	1
Suicide	1
Total	6

The clinical pattern demonstrated by these patients at diagnosis was moderate-to-severe disease in 66% and mild disease in 34%, and at follow-up the disease was less severe, but 77% of patients still had mild-to-moderate symptoms (Fig. 1). The median time from onset of symptoms to diagnosis was 7 months (range 0 - 20,9 years).

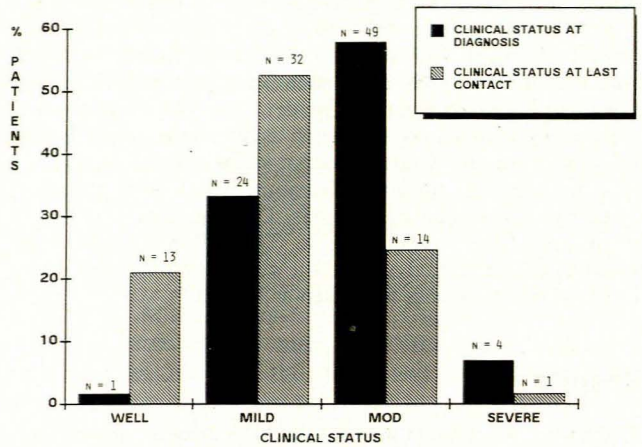

Fig. 1. Severity of Crohn's disease at diagnosis and at follow-up. (Clinical status at diagnosis not recorded in 4 of the initial 82 patients and clinical status at last contact recorded only for the 60 patients followed up.)

Thirty-four per cent of patients in the study group had ileal involvement only, 51% had ileocolitis and 15% Crohn's colitis. The extent of disease plotted by age at diagnosis combined with extent of disease at follow-up (Fig. 2) confirms a peak incidence in the third and fourth decades, with colitis occurring more in older patients and ileocolitis decreasing progressively with age.

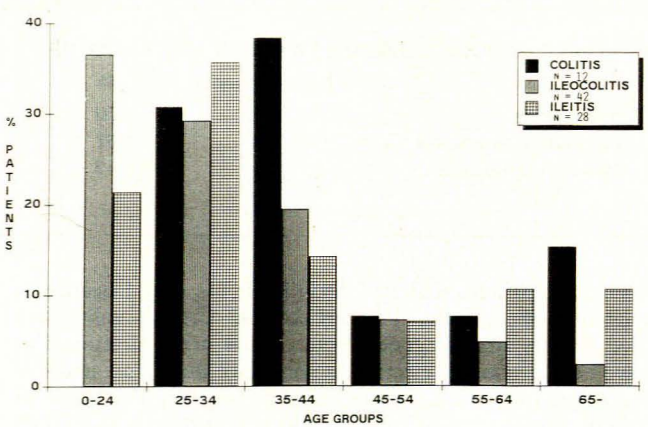

Fig. 2. Age distribution of patients with Crohn's disease according to extent of disease.

The 5-year resection rate was 46% (33 patients had resections in the 5 years following diagnosis out of the 72 patients followed to surgery or for 5 years). The rate increased to 68% at 10 years after diagnosis (36 patients had resections out of 53 followed to surgery or for 10 years) (Fig. 3).

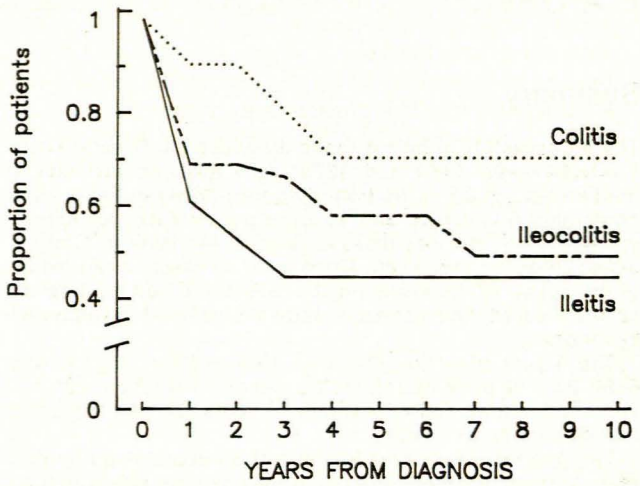

Fig. 3. Life table showing time from diagnosis to first resection for Crohn's disease.

Surgery occurred earlier in those patients with ileitis, of whom 56% had had a resection within 5 years of diagnosis, compared with 43% of patients with ileocolitis and 30% with Crohn's colitis. There was no significant difference in the number of resections done in the different extent-of-disease categories.

The 5-year rate for second resection was 23% (7 patients having a second resection during the 5 years after the first resection out of 31 patients followed to second resection or for 5 years following the first resection (Fig. 4). The rate increased to 42% at 10 years (8 patients out of 19 followed to second resection or for 10 years after the first). There was a fairly constant increase in the number of patients with ileitis and ileocolitis coming to second resection but as the patients with ileocolitis had mostly had their first resection later, the length of follow-up was shorter. No patient with Crohn's colitis had a second resection.

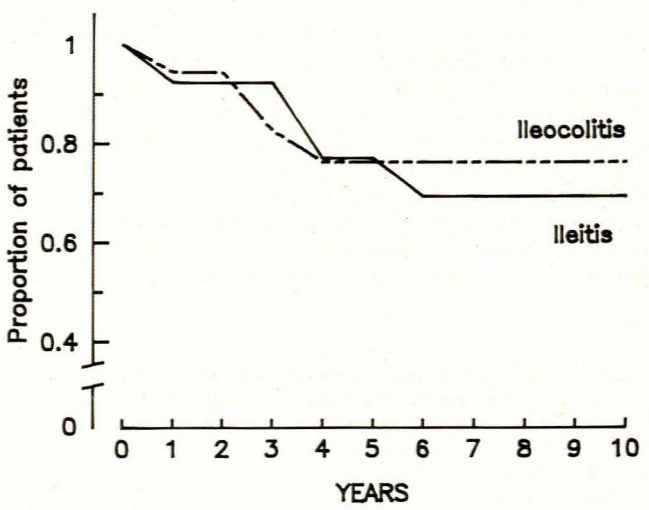

Fig. 4. Life table showing time from first resection to second resection for Crohn's disease.

There were no deaths following surgery and no cases of carcinoma of the colon during the follow-up period.

Ten patients (12%) were over the age of 60 years when the diagnosis of Crohn's disease was made. The extent of disease in these patients is shown in Table III. The number of elderly patients was too small to allow conventional statistical analysis, but there did not appear to be a difference in the extent of disease in patients diagnosed before and after 60 years of age. Three of these patients died of causes unrelated to their Crohn's disease, but the median length of follow-up of the remaining patients was not significantly different from the younger patients. Four out of the surviving 7 (59%) had been in complete clinical remission for more than 1 year, and the remaining 3 (41%) had had only 1 relapse in the preceding year. Seven of the 10 had had surgery but none had needed a second resection.

TABLE III. EXTENT OF DISEASE IN PATIENTS < AND > 60 YEARS AT TIME OF DIAGNOSIS

	0 - 60 yrs	> 60 yrs
No. of patients	**72**	**10**
Ileitis	**32%**	**50%**
Ileocolitis	**56%**	**20%**
Colitis	**12%**	**30%**

Discussion

This consecutive group of patients is believed to include all but a very few cases of Crohn's disease diagnosed in Greater Cape Town during the period 1970 - 1979, since an intensive search for cases of inflammatory bowel disease was undertaken in 1985.[7]

The mortality rate in Crohn's disease patients was not increased although there was 1 death attributable to the disease itself. Crohn estimated the mortality in this disease to be practically nil,[8] but this low mortality has not been confirmed in later studies.[9,10] However, Brahme *et al.*[11] in a prospective epidemiological study of Crohn's disease in Malmo, and Binder *et al.*[12] in Copenhagen reported low death rates. These studies are more comparable to the present one as both considered Crohn's in the community as a whole. It is also of interest that the mortality rate in inflammatory bowel disease has been noted to be lower in the Southern Hemisphere than in north-western Europe and the USA.[13] Thus the low mortality rate found in Cape Town is consistent with previous findings.

Crohn's disease tended to have a more severe presentation than ulcerative colitis.[14] Furthermore, 10 years after diagnosis only 19% of Crohn's patients had been in complete clinical remission for more than 1 year. This was a smaller percentage than that reported by Binder *et al.*,[12] who found approximately 45% of patients to have been symptom-free in any one year of follow-up, but in view of the smaller numbers in the present study, the difference was not significant.

The age distribution of patients presenting with Crohn's disease was similar to that found previously in Cape Town[7,15] and in Europe.[1,11,12,16] There was a small increase in Crohn's colitis in the elderly patient, as has been found in ulcerative colitis.[14] This has also been noted by Kyle in Scotland.[16]

After 10 years, only 32% of patients had not been treated surgically, 53% had had 1 resection and 15%, 2 or more resections, which is very similar to Binder *et al.*'s[12] findings. Since surgery was undertaken most frequently for sub-acute obstruction, it is not surprising that resections were undertaken sooner in those patients with ileal involvement. The incidence of surgery in Crohn's colitis was not significantly lower than in ileitis and ileocolitis.

The follow-up time in this study was not long enough to give representative figures for the risk of developing intestinal carcinoma.

Crohn's disease is considered rare in the elderly. In this study there were 10 patients (12%) over 60 years old at the time of diagnosis, which is higher than the ages reported by Goligher *et al.*[17] and Fabricius *et al.*,[3] but not significantly different. There did not appear to be a difference in the distribution of the disease in the elderly; however, the numbers were too small to allow conclusive statistical analysis ($E_i < 5$).

Although the incidence of surgery in the elderly patients was comparable to that of the group as a whole, no patient required a second resection. More than half the patients had been in remission for a prolonged period and the remainder did not have severe ongoing disease. Since the length of follow-up was not less than for the whole group, these facts suggest a more favourable prognosis for Crohn's disease in the elderly patient.

In conclusion, this study confirms that Crohn's disease is a chronic relapsing disorder with few patients being in remission 10 years after diagnosis. The surgical rate increased steadily from 46% during the first 5 years after diagnosis to 68% at 10 years.

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