

Incidence of ulcerative colitis in the Cardiff region 1968-1977

T MORRIS AND J RHODES

From the Department of Gastroenterology, University Hospital of Wales, Cardiff

SUMMARY The incidence of ulcerative colitis in South Glamorgan during the decade 1968-77 remained steady with a mean of $7.2/10^5$ /year. The disease was slightly more common in women, male:female ratio 1:1.2. Ulcerative colitis was rare in childhood but showed two peaks of incidence in adults, in the third and fourth decades and in the eighth decade.

Most studies on the incidence of ulcerative colitis were made 10 or 20 years ago and in recent years attention has focused on the rising incidence of Crohn's disease. We have examined the incidence of ulcerative colitis in the Cardiff region during the decade 1968-77 and compared this with local data on Crohn's disease.

Methods

PATIENTS

The county of South Glamorgan comprises the City of Cardiff, the adjacent coastal towns of Penarth and Barry, and a rural area to the west known as the Vale of Glamorgan (Fig. 1). The population of South Glamorgan is about 387 000 and was almost constant during the decade 1968-77. Seventy five per cent of the population of the county live in the City of Cardiff and a further 17% live in Penarth or Barry. The area is served by the Cardiff hospitals and there is no other general hospital in the county. Referral of a patient from South Glamorgan to a neighbouring health authority would be most unusual because of the distance involved but many patients are referred to South Glamorgan because it is a teaching centre.

The Cardiff hospitals have an excellent diagnostic index of inpatients, computerised from 1968. A special colitis clinic was established in Cardiff in 1965, initially at Cardiff Royal Infirmary and later at the University Hospital of Wales. This clinic is supervised jointly by a physician and a surgeon. Patients are referred to the colitis clinic by general practitioners and hospital consultants.

Address for correspondence: Dr J Rhodes, Department of Gastroenterology, University Hospital of Wales, Heath Park, Cardiff CF4 4XW.

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To identify cases for this study we used the hospital diagnostic index of inpatients, the diagnostic index of the colitis clinic, and we asked all the consultant physicians and surgeons in South Glamorgan for permission to include any other cases under their care. We identified 277 residents of South Glamorgan who were first diagnosed to have ulcerative colitis between 1 January 1968 and 31 December 1977. This involved examination of case notes from all 547 patients with ulcerative colitis seen in Cardiff in the 11 years 1968-1978. Many of the patients were not resident in South Glamorgan and in others the diagnosis was made before 1968. There were also 58 patients in whom the diagnosis of ulcerative colitis was inadequate, and 29 who were subsequently diagnosed as Crohn's disease.

The criteria for diagnosis of ulcerative colitis included a sigmoidoscopic examination which showed mucosal reddening, increased mucosal fragility and mucopus together with either a barium enema showing features of ulcerative colitis or histological evidence from rectal biopsy, surgery, or postmortem examination. All patients had negative stool cultures for pathogenic organisms.

Disease confined to the rectum and sigmoid colon at the time of diagnosis was termed distal colitis. If bowel proximal to the sigmoid colon was involved the disease was termed proximal colitis. Twenty three patients (8%) in whom inflammation extended proximal to the limit of sigmoidoscopy but in whom the barium enema was normal or unreliable have been included in the distal colitis group.

Although some mild cases seen only as outpatients may have been missed we believe the 277 patients represent almost all the cases of ulcerative colitis incident in South Glamorgan in the decade 1968-77. One hundred and eighteen required

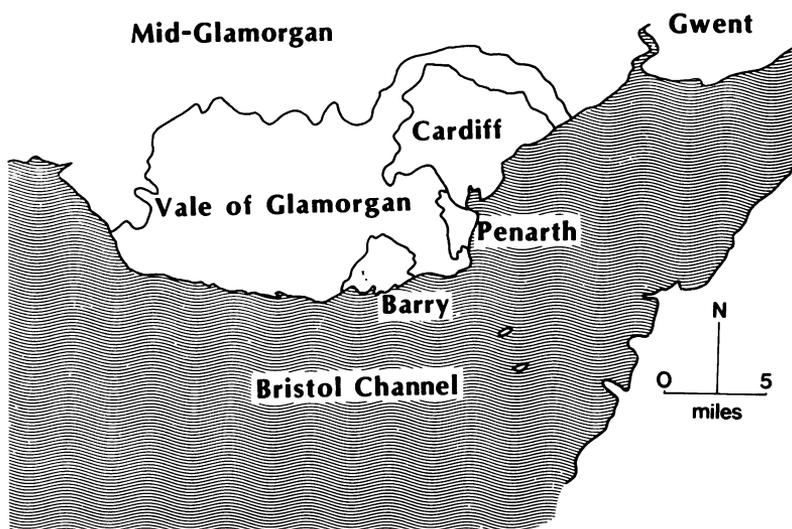


Fig. 1 Map of the county of South Glamorgan.

inpatient treatment and 159 were treated only as outpatients. Twenty eight per cent of the patients with distal colitis required admission to hospital compared with 57% of patients with proximal colitis.

The date at which the diagnosis of ulcerative colitis was first made was used to identify patients for the study because we feel this is more accurate than attempts to use the onset of symptoms. The history, however, was of less than one years duration in 233 patients (84%).

Results

One hundred and thirty nine patients (50%) had distal colitis and 138 patients had proximal colitis at the time of the first diagnosis. The mean incidence of ulcerative colitis in South Glamorgan between 1968 and 1977 was $7.2 \pm 1.5/10^5/\text{year}$ (Table 1). The annual incidence figures were similar with the exception of the years 1972 and 1973 when the disease was more common. There was no evidence for an overall change in incidence during the decade. Ulcerative colitis was slightly more common in women than men with a male to female ratio of 1:1.2.

The incidence of ulcerative colitis in different age groups may be expressed as the age specific incidence (Fig. 2). This is shown for the 213 patients who were resident in the City of Cardiff and not for the whole group. This enabled us to use accurate data on the age structure of the population obtained at the 1971 census. Ulcerative colitis was rare in childhood but the incidence increased rapidly in the 'teens to reach a peak in the third and fourth

decades. There was a slight decline in incidence during middle life with a second peak in the eighth decade.

Discussion

The steady incidence of ulcerative colitis in the Cardiff region during the decade 1968–77 contrasts with the rising incidence of Crohn's disease in the same area.¹¹ The incidence of Crohn's disease in Cardiff has risen each quinquennium since 1934 and was $2.3/10^5/\text{year}$ for 1956–60 rising to $4.8/10^5/\text{year}$ in 1971–75. The annual incidence of Crohn's disease varied more widely than ulcerative colitis but in 1977 Crohn's disease ($4.5/10^5$) was as common as ulcerative colitis ($4.9/10^5$). These figures contrast sharply with the Oxford study in the 1950s³ where

Table 1 Numbers of patients with ulcerative colitis each year, 1968–77, with annual incidence

| | Distal colitis | | Proximal colitis | | Incidence/ 10^5 |
|-------|----------------|-------|------------------|-------|-------------------|
| | Men | Women | Men | Women | |
| 1968 | 6 | 5 | 8 | 9 | 7.2 |
| 1969 | 5 | 6 | 5 | 7 | 5.9 |
| 1970 | 6 | 5 | 4 | 8 | 5.9 |
| 1971 | 7 | 8 | 7 | 7 | 7.5 |
| 1972 | 4 | 17 | 5 | 10 | 9.3 |
| 1973 | 10 | 11 | 10 | 8 | 10.1 |
| 1974 | 7 | 5 | 5 | 10 | 7.0 |
| 1975 | 8 | 5 | 9 | 5 | 7.0 |
| 1976 | 6 | 10 | 7 | 3 | 6.7 |
| 1977 | 3 | 5 | 3 | 8 | 4.9 |
| Total | 62 | 77 | 63 | 75 | Mean 7.2 |

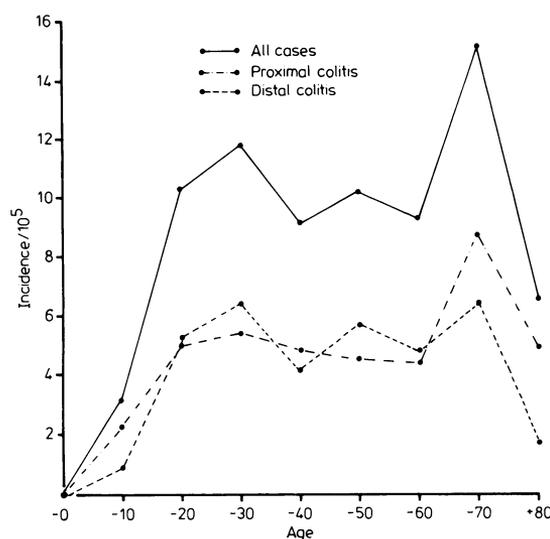


Fig. 2 Age specific incidence of ulcerative colitis in Cardiff 1968-77.

ulcerative colitis was eight times more common than Crohn's disease.

Studies from various centres (Table 2) suggest that the incidence of ulcerative colitis was rising before 1960^{1,3} but has been steady over the past 20 years.^{6,7,10} Two recent studies from the United Kingdom^{8,9} are exceptional and show a very high and rising incidence of ulcerative colitis so no overall pattern has emerged.

It has been suggested that the rising incidence of Crohn's disease may partly be due to better recognition of Crohn's disease of the colon since 1960. The steady incidence of ulcerative colitis in South Glamorgan is evidence against this and Crohn's disease affecting other regions of the bowel is also more common than in the past.¹¹

In South Glamorgan ulcerative colitis was very

Table 2 Studies from various centres showing incidence of ulcerative colitis

| Place | Date | Incidence |
|--|---------|-----------|
| USA: Minnesota ¹ | 1935-64 | 7.2 |
| New Zealand; Wellington ² | 1954-58 | 5.6 |
| United Kingdom: Oxford ³ | 1951-60 | 6.5 |
| Norway ⁴ | 1956-69 | 2.6 |
| USA: Baltimore ⁵ | 1960-63 | 4.6 |
| Israel: Tel Aviv ⁶ | 1961-70 | 3.6 |
| Denmark: Copenhagen ⁷ | 1961-66 | 7.3 |
| United Kingdom: NE Scotland ⁸ | 1967-76 | 11.3 |
| United Kingdom: North Tees ⁹ | 1971-77 | 15.1 |
| Denmark: Copenhagen ¹⁰ | 1962-78 | 8.1 |
| Cardiff (this study) | 1968-77 | 7.2 |

rare in childhood but the incidence rose steeply to reach a first peak in early adult life. The slight decline in incidence in middle life was almost confined to women but both sexes showed a second peak of incidence in old age. Indeed, the highest incidence of ulcerative colitis in our study was in the 70-79 years age group (15.1/10⁵). A bimodal pattern in age specific incidence of ulcerative colitis was first reported by Evans and Acheson in the Oxford study.³ A similar pattern was found by the Mayo Clinic¹ and, recently, in studies from Denmark¹⁰ and the United Kingdom.^{8,9} We cannot offer an explanation for this age distribution. Ulcerative colitis did not show any special features in the elderly though severe disease in this age group was associated with a high mortality.

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