already seen a general practitioner is therefore unjustified; they are just as likely to be seriously ill as are other patients, and more so than self referred patients who have not first seen a general practitioner. Their low default rate suggests that they perceive a genuine benefit from attending the accident and emergency department.

An overlap of care due to self referral occurred in almost 10% of cases seen. In our hospital this represents 12 000 attendances at the accident and emergency department each year. Such duplication raises many economic implications for purchasers and providers and the potential for problems in clinical management. New initiatives are needed to reduce overlap while simultaneously ensuring that those with genuine needs for hospital care do not face unwarranted difficulties in gaining access.

We gratefully acknowledge the help of staff in the department of accident and emergency at the University Hospital, Nottingham.

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(Accepted 7 April 1992)

Changing site distribution of colorectal cancer

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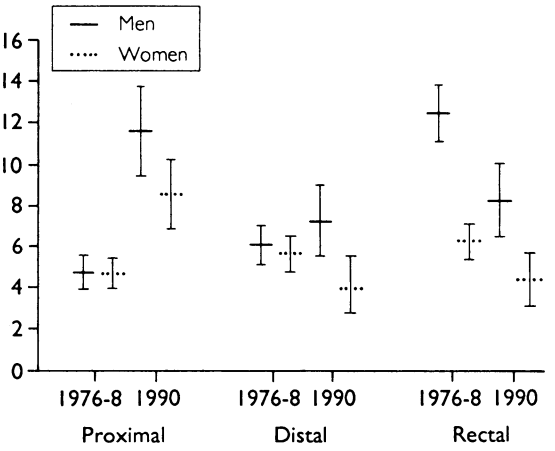
BMJ 1992;**305**:158

In North America and other high risk areas such as New Zealand there has been a proximal shift in the subsite distribution of colorectal cancer.[1,2] This trend has not yet been reported in the United Kingdom. The recent establishment of the Northern Ireland Colorectal Cancer Register has allowed us to determine whether any similar change has occurred in a well defined population of 1·5 million.

Subjects, methods, and results

Demographic, clinical, and pathological data on all new histologically confirmed cases of colorectal cancer were available from the register for 1990. Tumours were categorised as proximal if they were proximal to the splenic flexure; distal if they arose in or beyond the flexure, including the sigmoid colon; and rectal. From previous research, information was available to us on the site distribution of all histologically diagnosed tumours during 1976-78.[3] In that study the site of the primary tumour had been determined from the surgical summary on the pathology request slip and from the pathology report. Mid-year population estimates were obtained from the reports of the registrar general for Northern Ireland.

Differences in the proportions of cancer at each subsite between the two periods were assessed by calculating χ^2 statistics for contigency tables.[4] Age standardised incidence was calculated by the methods of Muir *et al* using the world standard population.[5]



Site specific incidence of colorectal cancer, 1976-8 and 1990. Bars indicate 95% confidence intervals for age standardised incidence per 100 000 population

The tumour site was unknown for 59 cases (4·8%) in 1976-78. The numbers of proximal, distal, and rectal tumours were 292 (23·6%), 339 (27·2%), and 551 (44·4%). In 1990 these were 231 (47·2%), 119 (24·4%), and 137 (28·1%), a highly significant increase in the proportion of tumours diagnosed proximal to the splenic flexure and a reduction in the proportion of tumours in the rectum ($\chi^2=62·4$, df=2, $p<0·0001$, calculated assuming all unspecified tumours in the first period were proximal). There was no significant change in the overall incidence of colorectal cancer for either sex.

The figure shows the age-standardised incidence for each sex and subsite. There has been a significant increase in the absolute incidence of proximal cancers, from 4·7 to 11·6 per 100 000 in men and 4·7 to 8·5 per 100 000 in women. This has been accompanied by a corresponding significant decline in the incidence of rectal cancer in men, which fell from 12·5 to 8·3 per 100 000.

Comment

These changes are unlikely to be artefacts as the same primary sources of ascertainment (the pathology laboratories) were used for both periods, and the site used in the analysis was that recorded by the surgeon at operation. Given that the overall incidence of colorectal cancer has not changed significantly and that there has been a decline for distal sites, the twofold rise in proximal cancer is unlikely to be due to more frequent coincidental diagnoses consequent on the greater availability of colonoscopy.

The dietary factors that increase the risk of proximal cancer are probably different or have different thresholds from those affecting distal sites. The broadly similar rise in the incidence of proximal cancer in men and women in this study is hard to reconcile with epidemiological and metabolic evidence suggesting that responses to these factors differ for the two sexes. However, cohort effects established during a previous generation would be difficult to exclude by a study of this kind.

The Northern Ireland Colorectal Cancer Register was established with an extremely generous grant from Friends of Montgomery House and would not have been possible without the support of all the province's surgeons and pathologists.

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(Accepted 29 April 1992)