Asian endoscopies: is there a difference?

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Summary: In 1988 2062 adults had their first oesophagogastroduodenoscopy at Leicester General Hospital, of whom 224 (10.9%) were Asian. A greater proportion of the Asian patients were less than 45 years old (46% vs 24%), which reflects the age distribution of the local population. When the findings at oesophagogastroduodenoscopy were analysed in two age groups (less than or older than 45) there were no differences between the races in the younger group. However, in the older group duodenal disease was significantly more common in the Asians ($P < 0.001$) whereas gastric disease was more common in Caucasians ($P < 0.05$). The incidence of cancer was much lower in the Asians.

Introduction

The different racial groups that make up the present population of the United Kingdom have been well described to differ in terms of the incidences of common diseases^{1,2} and in their usage of health services.³ However, these previous surveys have not found consistent differences in the incidence of gastrointestinal diseases between Asian and Caucasian patients. Balarajan *et al.*¹ showed an excess mortality from digestive system diseases in the Asian population but this was only significant for males. Donaldson and Taylor,² however, found fewer than expected hospital admissions for digestive system diseases in the Asian group.

No study has been done of the differences in oesophagogastroduodenoscopy (OGD) findings between the Asian and Caucasian populations of the United Kingdom. It was our clinical impression that a greater proportion of the OGD performed on Asian patients led to normal findings. We therefore studied all the OGD done in adults over one year to confirm or refute this impression and to discover any other differences between the two groups.

Methods

Leicester has a large Asian population accounting for 22.1% of the city's people in the most recent survey.⁴ Leicester General Hospital has the major gastroenterology department of the Leicester tea-

ching group, serving not only Leicester but also the surrounding county. This study retrospectively analysed the requests for, and the results of, all OGD done in this hospital in 1988. The race of a patient was determined by surname and divided into either Asian or Caucasian. Asian being defined as originating from the Indian subcontinent. In Leicester the majority of the Asians are Gujaratis.

The indications for the OGD, as written on the request form, were divided into four main groups: simple dyspepsia, complicated dyspepsia and dysphagia, upper gastrointestinal haemorrhage, and others. Dyspepsia was defined as pain or discomfort thought to be originating in the upper gastrointestinal tract and was simple if there were no other features present such as anaemia or weight loss. The 'other' indications for OGD included anaemia and/or weight loss with no specific gastrointestinal symptoms and the investigation of possible abnormalities seen on barium studies.

Statistical comparison between groups was by the calculation of chi-squared, using Yates' correction if either the observed or expected number in a group was less than 10.

Results

In 1988 2419 OGD were performed on 2173 patients aged 16 or more, 111 of these patients had the OGD for follow up of known lesions and were excluded from analysis. Of the remaining 2062, 224 were Asians (10.9%); 57% of Asians and 47% of Caucasians were men. Further division by age showed a significantly greater proportion of Asian men and women who were less than 45 years old, that is 43.8% and 54.2%, respectively, compared with 28.2% and 20.6% of Caucasian men and

women ($P<0.001$ for both men and women). Simple dyspepsia was by far the commonest indication for OGD and accounted for 1137 (55.1%) of all OGD performed. Simple dyspepsia was especially common in Asians (155/224, 69.2%) compared with Caucasians (982/1838, 53.4%; $P<0.001$). When the 4 age/sex groups were compared separately, however, the only significant difference was between the older men (65.3% *vs* 46.2%). Simple dyspepsia was a more common indication in the younger patients of all 4 sex/race groups, balanced by an increase in all the other indication groups in the older patients. The numbers of Asians with indications other than simple dyspepsia were too small to draw any conclusions.

The findings are shown in Table I and Figure 1. Benign disease includes diffuse inflammation as well as frank ulcers. The 'other' findings mainly consisted of hiatus hernias with no oesophagitis but also included oesophageal varices and Mallory Weiss tears.

There were significant differences between the sexes in that duodenal disease was more common in men and this held for all 4 age/race groups. A normal OGD was more commonly found in women.

Discussion

This is a study which has used simple methods to find differences between the two major ethnic groups of Leicester. No similar study has been done

in this country. Although accurate figures are available for the racial distribution of the city's population,⁴ such detailed data were not collected in the National Survey of 1981 and so is not available for the rest of the county which forms our catchment area. There are, however, fewer Asians living in the county and this probably explains why only 10.9% of the OGD were done on Asians when this group contributes 22.1% of the city's population. Another explanation for this difference is that the Asian population is younger and only contributes 11.2% of the over 45s in Leicester and most of the OGD were done in this older age group.

The method used to determine the race of a patient has been used before.⁵ This is likely to give a true Asian group but may lead to a heterogenous Caucasian group containing for example Afro-Caribbeans with Caucasian sounding names. However, in Leicester, this latter group is small (only 1.8% of the population) and we felt would not significantly alter the results.

Our initial impression had been that there were more normal OGD in our Asian patients compared to Caucasians. Although this was true for all OGD the difference was small and not statistically significant and is easily explained by the excess of younger patients in the Asian group.

Although the number of normal OGD was similar in the two racial groups there were differences when abnormalities were found. The incidence of cancer was lower in Asians (but not significantly) and this is consistent with the findings of mortality surveys.⁶

However, in benign conditions we did find

Table I Results of oesophagogastrroduodenoscopy in Caucasian (C) and Asian (A) patients. Number of patients (%)

Finding	Younger than 45			Older than 45		
	Men	Women	Total	Men	Women	Total
Benign oesophageal disease	C 65 (26)	30 (15)	95 (21)	C 150 (24)	198 (26)	348 (25)
	A 16 (29)	5 (10)	21 (20)	A 17 (24)	8 (18)	25 (22)
Benign gastric disease	C 27 (11)	31 (16)	58 (13)	C 159 (25)	214 (28)	373 (27)*
	A 8 (14)	9 (17)	17 (16)	A 11 (15)	8 (18)	20 (17)
Duodenal disease	C 81 (33)	25 (13)	106 (24)	C 182 (29)†	125 (16)	307 (22)‡
	A 20 (36)	5 (10)	25 (24)	A 33 (46)	10 (23)	43 (37)
Cancer	C 1 (0.4)	0	1 (0.2)	C 50 (8)	22 (3)	72 (5)
	A 0	0	0	A 0	1 (2)	1 (1)
Others	C 14 (6)	16 ((8)	30 (7)	C 27 (4)	74 (10)	101 (7)*
	A 3 (5)	3 (6)	6 (6)	A 7 (10)	8 (18)	15 (13)
Normal OGD	C 94 (38)	114 (57)	208 (47)	C 136 (22)	227 (30)	363 (26)
	A 18 (32)	31 (60)	49 (47)	A 16 (22)	14 (32)	30 (26)
Total	C 246	199	445	C 626	767	1393
	A 56	52	108	A 72	44	116

Some patients had more than one positive finding. Significant difference compared to corresponding Asian group: * $P<0.05$; † $P<0.01$.

Figure 1 OGD findings over 45. ▨ Caucasians; ■ Asians; * $P < 0.05$; ** $P < 0.001$.

significant racial differences. The older patients of both races were more likely to have abnormalities. Caucasians had a higher incidence of gastric disease, whereas in Asians it was duodenal disease that became more common with age. This compares with a recent study from Gothenberg, Sweden⁷ which showed an increase in both gastric and duodenal ulcers with age. This was in a racially more uniform population and no mention of any racial differences was made.

The patients in this study are highly selected having presented to their general practitioner and then either referred directly for an OGD or via a hospital doctor. Because of this selection, no extrapolation can be made to the incidences of these diseases in the catchment population. Despite this drawback it is difficult to imagine why a patient with symptoms due to one underlying pathology would be less likely to have an OGD than one with the same symptoms but a different disease process.

Therefore it seems likely that the trends observed in this study are prevalent in the local population.

The reasons for these racial differences are not known. Clearly there are large genetic and environmental differences between the races that might explain why Asians are more likely to get duodenal rather than gastric disease as they get older. As these differences are not seen in the younger age groups it may be that genetic differences are less important than environmental ones. Environmental differences will also be less in the younger Asians compared to the older age group as more of them will have been born in the UK compared to very few British-born Asians over 45 years. A study of duodenal ulcers in Indians in South Africa⁸ showed an excess compared to the white population. The authors hypothesized that this was due to the 'change' of environment occurring with immigration rather than the particular environment, and our findings are consistent with this.

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