

Letter to the Editor

Gastric cancer in Norfolk

Sir - Gastric cancer was classified by Lauren (1965), into two main histological types - intestinal (I) and diffuse (D). Intestinal type gastric cancer is thought to be caused by environmental factors and to predominate in areas with a high incidence of the disease while diffuse type gastric cancer is thought to be genetic in origin and evenly distributed around the world (Lehtola, 1978; Day, 1980; Correa, 1981; Correa, 1984). Within the UK there is considerable regional variation in the incidence of gastric cancer (Chilvers & Adelstein, 1980), North Wales being an area with a high incidence and Norfolk an area with a low incidence. In a previous communication to this journal (Caygill *et al.*, 1983) we reported the differences in distribution of the two types of

gastric cancer between rural and urban areas in North Wales. In this communication we report the distribution of the two histological types in Norfolk.

Histological sections from cases of resected gastric cancer diagnosed at the Norfolk and Norwich Hospital between 1974 and 1980 (252 cases) and at the District General Hospital, Gorleston between 1974 and 1983 (120 cases) were located and examined as described previously (Caygill *et al.*, 1983). The relative numbers of the different histological types of gastric cancer at the two hospitals are shown in Table I, whilst the characteristics of the gastric cancer are shown in Table II.

Addresses of the patients were found from the

Table I Histopathology of gastric cancer cases

Hospital	Histological type				
	Intestinal (I)	Diffuse (D)	I/D	Mixed	Unclassifiable
Norfolk & Norwich	154	63	2.44	11	24
Gorleston	93	12	7.75	4	11
Overall	247	75	3.29	15	36
N. Wales overall*	265	115	2.30	38	72

*From Caygill *et al.* (1983).

Table II Characteristics of the gastric cancer patients studied

	Males		Females		Totals	
	Mean age at diagnosis		Mean age at diagnosis		Mean age at diagnosis	
	No	(y)	No	(y)	No	(y)
Norfolk & Norwich Hospital						
Diffuse	42	67	21	63	63	66
Intestinal	103	67	51	68	154	67
Total	145	67	72	67	217	67
Gorleston District Hospital						
Diffuse	6	66	6	66	12	66
Intestinal	71	65	22	69	93	67
Total	77	65	28	69	105	66
N. Wales*						
Diffuse	56	62	59	66	115	64
Intestinal	179	66	86	69	265	67
Total	235	65	145	68	380	66

*From Caygill *et al.* (1983).

hospital records and those with diffuse or intestinal type gastric cancer were plotted on a map of East Anglia (RAC No. 4). Over 90% of all the patients had either been born in or near the town where they still lived or had lived there for over 20 years. Only 2 patients whose slides were examined could not be traced to an address.

The total number of cases of gastric cancer reported between 1974 and 1982 to the Norwich Cancer Registry, from hospital and general practices in the area, was 1464. Of these 1234 were reported by the Norfolk and Norwich Hospital and the District General Hospital at Gorleston. We feel therefore that these two hospitals are representative of the whole region, contributing 84% of all the cases.

For the period of study there were 642 cases with a presumptive diagnosis of gastric cancer at the Norfolk and Norwich Hospital, of which 345 (54%) were confirmed by histology. Of these, 252 (resection specimens only) were classified as intestinal, diffuse, mixed or unclassifiable gastric cancer. Similarly of the total of 445 gastric cancer cases at the District General Hospital, Gorleston, 232 (52%) were confirmed by histology, and we classified the 120 cases that were resected.

Studies in other parts of the world have shown variable ratios of intestinal to diffuse gastric cancer with a tendency for the ratio to be higher in populations with high gastric cancer incidence (Munoz *et al.*, 1968; Correa *et al.*, 1970; Correa *et al.*, 1973), although some contradictory results have also been reported (Kubo, 1973; Mabogunje *et al.*, 1978). In a study from Oxford, Whitehead *et al.* (1974) looked at the histology of cases of gastric cancer from two different periods separated by a 25 year interval. They were unable to demonstrate any change in tumour type in the two groups, even though a marked reduction in gastric cancer incidence had occurred over this time. In the present study from Norfolk, an area with a lower incidence of gastric cancer than North Wales and where it would be expected that there would be a lower proportion of intestinal type cancers, the ratio was higher (I/D=3.3). In both areas there were pockets of high I/D. In North Wales, of those which could be plotted on a map, there was a

higher ratio in rural (4.8) than in coastal areas (2.4). In Norfolk, however, there would appear to be a pocket where intestinal type gastric cancer predominates in the coastal strip between Caister-on-Sea and Lowestoft (I/D=7.8), the area where most of the patients attending the District General Hospital at Gorleston came from.

Our findings suggest that there does not seem to be a clear relationship between histological type of gastric cancer and gastric cancer incidence in populations of North Wales and Norfolk, even allowing for the fact that the groups studied were a sample, and that the histological interpretation was subjective. It is noteworthy, however, that in both areas there were localised pockets where intestinal type gastric cancer was predominant, indicating the need for more detailed investigations of dietary history and study of the prevalence and type of gastritis in people from these areas.

Yours etc.

C. Caygill

PHLS Communicable Disease Surveillance Centre,
Central Public Health Laboratory,
61 Colindale Avenue, London NW9 5HT

D.W. Day

Department of Pathology
University of Liverpool
Liverpool L69 3BX

M.J. Hill

Bacterial Metabolism Research Laboratory
PHLS Centre for Applied Microbiology
and Research
Porton Down, Salisbury
Wiltshire SP4 0JE, UK.

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