cerebral palsy and those who died, but the increased risk of suboptimal care in these groups remained after adjustment for this. To carry out the analysis that Hall suggests and still retain our matched design, much larger numbers would have been needed. To explore further the complex interrelation of antenatal and intrapartum factors, care, and cerebral palsy, collaborative studies will be necessary.

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Oral squamous cell carcinoma

Mouthwashes may increase risk

EDITOR,—Iain L Hutchison states that tobacco is an important risk factor for oral squamous cell carcinoma and that drinking alcohol and chewing betel quid have also been implicated.¹ The International Agency for Research on Cancer states that “epidemiological studies clearly indicate that drinking of alcoholic beverages is causally related to cancers of the oral cavity and pharynx.” Further, it believes that there is sufficient evidence for the carcinogenicity of alcoholic beverages.² Evidence from Torino, Italy, showed a fourfold to sixfold increased risk in subjects with medium or high tobacco consumption, the effect of alcohol being found in subjects with an average daily consumption of more than 120 g.³ This research also found that among heavy consumers of alcohol and tobacco the risks of both oral and oropharyngeal cancer were high. More recent research has shown that of 101 cases of carcinoma of the floor of mouth, 79 were in smokers.⁴ Of this group, 32 drank more than 20 units of alcohol a week.

Since the mid-1980s sales of mouthwash have been deregulated, and supermarkets devote considerable shelf space to this product. Most mouthwashes are based on cetylpyridinium chloride, which I showed in 1980 to have produced a 30% reduction in plaque levels by day 6 in a double blind trial.⁵ Winn *et al* examined use of mouthwashes and the risk of oral carcinoma.⁶ After interviews with 866 patients with oral or pharyngeal cancer, or both, and 1249 controls they found a significant increase in risk associated with regular use of a mouthwash (the risk was increased by 40% among males and 60% among females after adjustment for tobacco and alcohol consumption). This risk was seemingly in proportion to dose, tending to increase with increasing duration and frequency of use of a mouthwash and according to the alcohol concentration of the mouthwash.

The table shows the alcohol concentration of mouthwashes that are commonly available and that contain cetylpyridinium chloride (determined by

staff of the department of clinical biochemistry, University of Edinburgh, with gas chromatography). As the effect of alcohol is probably local and as the mouthwashes, which have been shown to have a low efficacy against plaque, are required to be used daily on a long term basis, I am concerned that they could increase the risk and incidence of oral carcinoma without conferring any major benefit. Consequently I hope that both the medical and dental professions can make representations to have mouthwashes that contain alcohol labelled with a warning so that the public can make an informed decision on their use.

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Management of breast cancer

EDITOR,—Elizabeth Roberts and Lucy Branstons were concerned that we made no detailed reference to the United Kingdom's breast screening programme in our study on the management of breast cancer cases diagnosed in 1990 in the Thames regions.²

Only 123 out of the 334 cases (36%) analysed in our study sample fell into the 50-64 year age group covered by the screening programme. In 1990, though, many eligible women in this age group had not yet been invited for their first screening. Records among the 123 women show that 27 (21%) cancers were detected on screening, but the registry does not yet have complete information from the screening programme.

Our study of breast cancer management formed part of a study based on the European Cancer Registries of survival and care of cancer patients (the Eurocare study). It did not involve local clinicians. They have responded favourably, however, and we have had many comments directed to the registry.

We decided to use the King's Fund guidelines as a standard because previous studies had used them in our area^{3,4} and because they are comprehensive. The screening guidelines are specifically for post-menopausal women and do not cover adjuvant chemotherapy and radiotherapy fully.

Deaths, four years after diagnosis, among women with breast cancer

Stage	Total	No (%) dead
I	41	4 (10)
II	76	16 (21)
III	34	16 (47)
IV	30	23 (77)
Not known	159	40 (25)
Total	340	99 (29)

In relation to the outcome of our series, by March 1994 and four years after diagnosis, 99 (29%) of the 340 women were known to have died. Deaths are distributed as shown in the table according to stage at diagnosis (since the publication of our study, a few case notes that had been untraced were found and data forwarded to the cancer registry). We now have data for 340 women instead of the previous 334 and a few more could be staged.

Among the 77 cases that could not be traced in the study, 39 (50%) are known to be dead (36 of these died before collection of data was completed). Roberson and Branstons expressed concern about the quality of the registry's data. We would like to emphasise that the data for the study came direct from the hospital case notes, not from the registry's routine data: tumour stage was determined by a clinically qualified researcher (AMC). However, the study permitted an internal audit, comparing registry data with case note information. The registry had recorded 100% of surgery to the breast but only 40% of axillary surgery, 80% of adjuvant radiotherapy, 71% of adjuvant chemotherapy, and 77% of treatment with tamoxifen. The completeness of ascertainment of cases diagnosed in 1990 was estimated at about 80% at the time of sampling. It is impossible to exclude bias from this source.

Local enthusiasm for this type of work has led to a new study being funded. In this we are collaborating with local breast cancer specialists, several of whom have a leading role in the screening programme, to start a prospective study to examine and improve management of breast cancer in our area.

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Cancer of the upper gastrointestinal tract

Palliative chemotherapy unproved in advanced gastric cancer

EDITOR,—Paul Ellis and David Cunningham advocate “a careful re-evaluation of the role of chemotherapy in the palliation of symptoms and prolongation of life expectancy” in advanced oesophageal, gastric, and pancreatic cancer.¹ For good palliation clinicians need to be convinced by randomised studies that the quality, if not the quantity, of life of patients with these malignancies is superior with chemotherapy than with best supportive care. In the case of advanced gastric cancer I find some of the statistics presented unconvincing.

Alcohol concentration of commonly available mouthwashes

Proprietary name	Company	Ingredients listed on bottle	Ethanol concentration	
			g/l	% v/v
Listermint	Warner Lambert Health Care	Sodium fluoride PhEur 0.05% w/v cetylpyridinium chloride PhEur 0.1% w/v	103	13.0
Search	Stafford Miller	Cetylpyridinium chloride BP 0.05% w/v	121	15.3
Oral B Dental Rinse	Oral B Laboratories	Cetylpyridinium chloride monohydrate 0.05%, sodium fluoride 0.05%	74	9.4
ExtraStrength antiseptic mouthwash	Safeway	Ethanol, benzoic acid BP, eucalyptol BP, cetylpyridinium chloride BP, thymol BP, methyl salicylate BP, menthol BP	212	26.9
Macleans Active Mouthguard	Beecham Toilettries	Ethanol, sodium fluoride BP, cetylpyridinium chloride	138	17.5
Antiplaque Mouthwash	Safeway	Sodium fluoride BP 0.05% w/w, cetylpyridinium chloride BP, alcohol	61	7.7
Pearl drops Smokers 1 + 1	Carter-Wallace	Ethanol Thymol, eucalyptus, cetylpyridinium chloride, sodium fluoride	112	14.2