abbreviated letters, so long as I have no other symptoms than pulse irregularity, I ignore.

I gather that quinidine is "out" and lanoxin is "in" for these arrhythmias, but I note with interest Dr Grant's experience with disopyramide.

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Aetiology of appendicitis

SIR,—Mr F T deDombal and Dr A J Hedley (24 March, p 820) dispute the assertion by Mr D P Burkitt and others that "the geographical distribution of appendicitis indicates that it is a disease associated with Western culture" (3 March, p 620), and cite recent reports published from a number of non-Western countries attesting to the frequency of acute appendicitis, found to be the commonest cause of hospital admission for acute abdominal pain.

This is also our experience with Canadian Indians and Eskimos in recent years. "Epidemics" of acute appendicitis, the appendix often being ruptured by the time the patient reached hospital, were noted in northern Alberta Indians in the 1950s, sub-arctic Indians and Eskimos of the western Arctic in the 1960s, and eastern arctic Eskimos in the 1970s, corresponding in each population group to drastic changes in diet and life style. This contrasts sharply with our experience in the early 1950s, when I saw during two years caring for more than 3000 Eskimos and Indians in the western Arctic and lower Mackenzie River area only three cases of appendicitis—all in children at native residential schools—while none occurred in the majority of children and adults staying at home.

Similarly, not one case of appendicitis was observed from 1928 to 1958 in a mission hospital in Pangnirtung caring for 4000-5000 Eskimos in Canada's eastern Arctic. But in 1964, for example, in an eight-week journey aboard a supply ship visiting the same shores three emergency appendectomies had to be performed in addition to numerous cases shipped annually to the new Frobisher Bay Hospital, where appendicitis has become the most frequent operation and commonest cause of hospital admissions for acute abdominal pain just as a decade earlier in the western Arctic.

Our observations in northern Indians and Eskimos—spanning a generation—of a marked change in the epidemiology of appendicitis, linked in each population group to drastic changes in diet and life style, are in accord with the ideas of Mr D P Burkitt and others that differences in geographical distribution of a number of intestinal diseases—such as diverticulosis, cancer of the colon in the older, and appendicitis in the younger age groups—may be associated with diet and the way of living of modern man. There is, however, a noteworthy difference: northern hunting populations, especially the almost exclusively carnivorous Eskimos, ingested in their traditional diet no more fibre than modern Western man, in contrast to most non-Western population groups, which led Burkitt and others to their epidemiological deductions. We found that intestinal transit times were nevertheless much shorter in traditionally living Eskimos than in modern urbanised Eskimos owing both to dietary patterns (polyunsaturated fatty

acids in fish and game, especially sea mammals) and to activity patterns.

Considering the marked changes in the epidemiology of appendicitis as well as cholecystitis, diverticulosis, and cancer of the colon and rectum,² in Eskimos during the last generation, one must wonder if the relatively high incidence of appendicitis in non-Western countries cited from recent reports by Mr deDombal and Dr Hedley reflects new developments in the same way as in our northern native population groups.

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¹ Schaefer, O, et al, in *Proceedings of IV International Symposium on Circumpolar Health, Novosibirsk, October 1978*, in press.

² Schaefer, O, et al, *Canadian Medical Association Journal*, 1975, **112**, 1399.

SIR,—One aspect of the geographical distribution of appendicitis appears to be overlooked by Mr D P Burkitt and others (3 March, p 620). This is the undoubted decrease in the incidence of the disease in Britain and the West over the past few decades. I summarised the evidence for this decrease in 1976.¹ On the basis of published estimates of case-fatality rates in the British and North American literature it seems that the incidence of appendicitis in Britain increased from the late nineteenth century up to about 1940 (in accord with the dietary hypothesis), but the incidence has decreased since about 1940.

While part of the decrease may be due to changes in diagnostic criteria and nomenclature¹ it must be true that, as Mr F T de Dombal writes (24 March, p 820), the relation between appendicitis and modern Western culture is undoubtedly far more complex than any simplistic association.

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¹ Donnan, S P B, and Lambert, P M, *Population Trends*, 1976, **5**, 26.

Psoriasis and cancer

SIR,—I read with considerable interest the paper by Professor Sam Shuster and colleagues (7 April, p 941), and also the previous paper by Chapman et al.¹ The question has been raised² as to whether or not psoriatics are possibly relatively resistant to cancer in the same way as they seem to be less prone than average to solar keratosis³ and as some prokaryotes, for example, are less susceptible to radiation-induced mutational damage to the DNA. Naturally, considering only lesions induced in skin this, in a sense, could be a side effect, "trivial" but obviously useful—related perhaps to the enhanced skin cell turnover of psoriatics. On the other hand, if a more fundamental and possibly general cancer resistance were true, the relation of psoriasis to HLA haplotypes is of added interest and would need an explanation.² The observations on impaired aryl hydrocarbon hydroxylase activity in psoriatic skin¹ introduce a further special point in relation to HLA.

It would therefore be most interesting to know whether Professor Shuster and his colleagues have had an opportunity of HLA testing their psoriatic patients in whom they

have studied the aryl hydrocarbon hydroxylase. Even if numbers are small the data might be informative.

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¹ Chapman, P H, Rawlins, M D and Shuster, S, *Lancet*, 1979, **1**, 297.

² Polani, P E, in *Human Genetics: Possibilities and Realities* (discussion), Ciba Foundation Symposium No 66, ed R Porter and M O'Connor. Amsterdam, Excerpta Medica, in press.

³ Koscard, E, *Australian Journal of Dermatology*, 1976, **17**, 65.

* * * We sent a copy of this letter to the authors, whose reply is printed below.—ED, *BMJ*.

SIR,—We have done HLA studies on most of the patients with psoriasis in whom we showed a decrease in epidermal aryl hydrocarbon hydroxylase activity.¹ The results, which we will publish shortly, show an increase in BW17 frequency. In our paper we also suggested that the same abnormality of aryl hydrocarbon hydroxylase activity with its consequences for cancer protection is a possibility requiring testing in other organs; but, unlike Professor Polani, we would consider protection against cancer of the skin as major enough—if only because 2% of the population could be a little more optimistic about the future of photo-chemotherapy for psoriasis.²

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¹ Chapman, P H, Rawlins, M D, and Shuster, S, *Lancet*, 1979, **1**, 297.

² Rogers, S, et al, *Lancet*, 1979, **1**, 455.

Defects in copper winding of intrauterine devices

SIR,—During recent months we have been concerned at finding apparent breakage and loss of the copper winding from Gravigard intrauterine devices removed from patients attending family planning clinics. In each of our cases the intrauterine device had been inserted more than three years previously. The amount of copper winding lost has varied from a small deficiency to almost total loss.

We would be interested to know if others have found similar defects in the copper winding of devices left in situ for more than two years.

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Estimating gestational age

SIR,—I would like to support Professor C J Roberts and others in a plea for accurate obstetric dating (14 April, p 981). Dating is so important, not just for such screening programmes, but also in distinguishing "small-for-dates" gestation from mistaken dates and, of course, for reducing unnecessary induction of incorrectly diagnosed prolonged pregnancy. Most tests of fetal well-being likewise depend on an accurate knowledge of gestational age.