of disopyramide ($\pm$ SD) at 5 min were 6.8 ± 2.68 mg/l, at 15 min 4.01 ± 1.33 mg/l, and at 30 min 3.82 ± 1.21 mg/l. No serious side effects were seen, but two patients required temporary catheterisation for urinary retention and three had hot flushes for between 30 s and 6 min after the injection of disopyramide. There was no alteration in blood pressure and heart rate except in the patients with ventricular and atrial tachycardia.

Our short experience shows that the blood levels of disopyramide obtained were sufficient to suppress premature beats. It also illustrates the difficulty of assessing the drug clinically when spontaneous remission may occur. We suggest that further controlled trials need to be done to establish the effectiveness of disopyramide as a possible alternative to lignocaine in the suppression of premature beats.

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Treatment of chronic hepatitis B virus infection with ribavirin

SIR,—The new antiviral agent ribavirin (1- β -D-ribofuranosyl-1,2,4-triazole-3-carboxamide) has been used in the treatment of acute B-virus hepatitis with conflicting results. Zuniga *et al*¹ reported a significant shortening of the course of the illness and a more rapid return to normal of serum bilirubin and enzyme levels. However, Moseley² could find no difference between the response of patients treated with ribavirin and those receiving a placebo. A clearer idea of the efficacy of the drug against the hepatitis B virus (HBV) might be obtained by treating patients with chronic HBV infection and using elimination of the hepatitis B surface antigen (HBsAg) from the patient's serum as an objective criterion of anti-HBV activity.

We studied 13 patients with chronic HBV infection, diagnosed by the presence of HBsAg in the blood on three consecutive occasions at suitable intervals. One patient was an asymptomatic carrier and another had no evidence of liver disease (he suffered from recurrent respiratory infections and was deficient in complement); the remaining patients had HBV-associated chronic liver disease—one suffered from chronic active hepatitis, two from chronic active hepatitis with cirrhosis, and eight from hepatocellular cancer with or without cirrhosis. There were 12 men and one woman and all but one were Black. Ribavirin was usually given in a dose of 800 mg daily for 21 days; one patient was treated for 28 days and another received 1200 mg daily for 10 days. Blood was taken for detection of HBsAg, selected liver function tests, a full blood count, and urea and electrolyte estimation before starting the drug, at weekly intervals during the trial, and after finishing the course of treatment.

In none of the patients did HBsAg disappear from the serum during or after treatment with ribavirin. No significant changes in liver function tests or in urea and electrolyte levels were noted. However, one patient (and another not included in this trial who was given ribavirin for extensive cutaneous warts) developed mild intravascular haemolysis which disappeared after stopping the drug. The direct Coombs test was negative, as was a ribavirin-induced Coombs test.

From these results it seems unlikely that ribavirin will be effective in the treatment of patients with HBV-associated chronic liver disease or asymptomatic carriers of the virus.

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¹ Zuniga, C. B., *et al*, in *Proceedings of the 10th Congress of the Sociedade Brasileira de Medicina Tropical*, Curitiba-Parana, February 1974, abstract 118.

² Personal communication to Dr R. W. Sidwell, ICRN Nucleic Acid Research Unit, Irvine, California.

"Experience not essential"

SIR,—Your issue of 12 March (p xxv) carries an advertisement for the post of lecturer in geriatric medicine at the University of Manchester, which states: "Previous experience in geriatric medicine is not essential." Surely it cannot be possible to teach a branch of medicine in which one has had no experience. Personally, even after many years devoted to research and clinical work in geriatrics, I have found it a difficult subject to teach to medical students who have not encountered the problems of elderly patients in their previous clinical work.

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Chlorpropamide-induced hyponatraemia

SIR,—With reference to the report by Dr C. J. C. Roberts of four cases of diuretic-induced hyponatraemia (22 January, p 210), I should like to report a case in which a similar condition was induced by chlorpropamide.

A 76-year-old woman was admitted in a violently confused state, unresponsive to questions. She had a two-day history of headache and had become drowsy and confused 12 h before admission. She had been started on chlorpropamide 250 mg twice daily one week before for her recently diagnosed diabetes mellitus. Her only other treatment was Delta-Butazolidine (a combination of phenylbutazone and prednisone), which she had been taking for several years.

On examination she was normotensive and the only abnormal findings were confusion, diminished reflexes, and bilateral extensor plantar responses. Her plasma sodium concentration was 118 mmol (mEq)/l, chloride 79 mmol (mEq)/l, and blood glucose 8.4 mmol/l (150 mg/100 ml). Standard bicarbonate, plasma potassium and creatinine, serum cortisol, and blood urea levels were all within normal limits. Brain scan and chest x-ray were normal. On the second day, serum osmolality was 258 mmol/kg and urine osmolality 346 mmol/kg. This is consistent with the syndrome of inappropriate antidiuretic hormone (ADH) secretion.

All drugs were stopped and within 10 days she had made a complete clinical and biochemical recovery. By the fifth day the plasma sodium had risen to 134 mmol/l and plasma chloride had fallen to 90 mmol/l.

Chlorpropamide-induced syndrome of inappropriate ADH secretion was reported by Weissman *et al*¹ in a series of five women who presented with symptoms of hyponatraemia. They postulated that 4% of people taking chlorpropamide are at risk of hyponatraemia, though Epstein *et al*² dispute this figure. Considering the severe symptoms that may arise from hyponatraemia, screening of patients

receiving thiazide diuretics or being over-hydrated for urinary tract infections or urological investigations seems indicated if they are also taking chlorpropamide, though I think this is the first symptomatic case to be reported in England and it seems less common than was originally supposed.

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¹ Weissman, P. N., Shenkman, L., and Gregerman, R. I., *New England Journal of Medicine*, 1971, **284**, 65.

² Epstein, S., *et al*, *New England Journal of Medicine*, 1972, **286**, 785.

Hexachlorophane—yes or no?

SIR,—In response to your leading article (5 February, p 337) and the subsequent correspondence, we have a number of comments.

(1) Hexachlorophane (HCP) is an effective skin antiseptic that has been used for 30 years as a surgical scrub and skin cleanser and has been found to be a highly effective agent in the control of staphylococcal infections and epidemics. There are adequate scientific and epidemiological data to support the use of HCP, and its marked activity against Gram-positive organisms is well documented. Immediately after the use of HCP was restricted a report from the US Center for Disease Control (CDC)¹ illustrated the dramatic rise in staphylococcal infection when HCP was discontinued for baby bathing. The rate of infection rose from a documented 1 case per 1000 births to 6 per 1000. This included serious staphylococcal diseases such as impetigo, enterocolitis, bacteraemia, and osteomyelitis. More recently Hyams *et al*² reported an increase in staphylococcal colonisation from 2.2% in HCP-bathed infants to 6% in non-HCP-bathed infants. This was followed by an epidemic of *Staphylococcus aureus* infection in the latter group which was controlled with HCP. Similar evidence from the United Kingdom is reported in the letter from Dr Beryl Corner and her colleagues (5 March, p 636). The US Food and Drug Administration (FDA) and the CDC recommend that nurseries consider HCP bathing to control an outbreak of Gram-positive infection and the American Academy of Pediatrics also endorses this procedure.

(2) As to the establishment of a "benefit to risk ratio" for HCP, we would point out that there is no evidence of neurotoxicity resulting from the use of HCP as a surgical scrub or as a skin cleanser by adults or by teenagers and children, who before the regulatory restrictions used 3% HCP extensively to treat acne and other skin conditions. An examination of 135 stillborn infants and infants dying in the neonatal period³ showed that there was no significant difference in the neurological findings in infants bathed in HCP at birth compared with infants not bathed in HCP. Plueckhahn's⁴ experience of 81 756 live births is impressive evidence for the lack of deleterious effects on growth and development of the babies bathed with pHisoHex and also for the lack of any deaths associated with HCP. Even in inherently high-risk patients, such as premature infants, the evidence for HCP neurotoxicity is not absolute, and the interpretation by Professor E. G. McQueen and Mr D. G. Ferry (5 March, p 637) of Plueckhahn's data ignores that author's clear evidence that three or more bathings with 3% HCP are required