CORRESPONDENCE

Insulin: U40, U80, or U100?

Joanna Sheldon, FRCP, and others.....1319

Coronary artery disease and coalworkers' pneumoconiosis

W R Parkes, MD, and others.....1319

The London hospitals scene

J M Forsythe, FFCM, and others; Sir Francis Avery Jones, FRCP.....1320

Community physicians and administrators

P MacMahon, FFA.....1321

Percutaneous transhepatic cholangiography

G M Fraser, FRCP, and others.....1321

Training in practice

C J R Hart, MRCP; Margaret Thomson MB.....1321

Reactions to current influenza vaccine

M S Hall, MB; D K Payler, MRCP.....1322

Is there a future for community medicine?

K Papas, MD; S Hagard, DPH; N H N Mills, MFCM.....1322

Angiotensin II blockade with saralasin

G A MacGregor, MRCP; R Beckerhoff, MD.....1323

Incomplete NHS prescriptions

G C Robinson, MPS.....1323

White coat

R MacG Aitken, FRCP; G C Hancock, MB.....1324

Plasma propranolol levels in coeliac disease and Crohn's disease

R E Schneider, FRCPED, and others.....1324

Treatment of cervical spondylosis

P Harris, FRCS; J H Cyriax, MD.....1324

Prostatic cancer

E P N O'Donoghue, FRCS, and G D Chisholm, FRCS.....1324

Student health

D G Illingworth, FRCPED.....1325

Promotion of new drugs on television

H M White, MB.....1325

Aortic incompetence in systemic lupus erythematosus

A J Isaacs, MRCP.....1325

Appointments in community medicine

R B Robinson, MFCM.....1325

General practitioners and coronary care

J S Geddes, MD.....1325

The elderly in a coronary unit

R G Simpson, FRCP.....1325

Managing mild hypertension

A Martin, MD.....1326

Confidence and medical appointments

H Caplan, FRCPATH.....1326

Junior hospital doctors and Europe

P McNally, FRCS.....1326

Health Service charges

P J E Wilson, FRCS.....1326

Industrial action and the Royal Commission

P R B Pedlow, FRCOG.....1327

Evidence to Royal Commission

A R Rogers, MB.....1327

NHS superannuation and war service

W H Bond, FRCS; M H Hughes, FRCPATH.....1327

The £8500 limit

D C Evered, MD.....1328

Points from letters Metoclopramide and prolactin (K D Jones); Postmenopausal urinary symptoms and hormonal replacement therapy (D Freedman); Ankylosing vertebral hyperostosis: unusual presentation (Jennifer M Hunter); Postcoital contraception (Ishbel M Monks); Carcinoma of vulva in twin sisters (A K Ghosh).....1328

Correspondents are urged to write briefly so that readers may be offered as wide a selection of letters as possible. So many are being received that the omission of some is inevitable. Letters should be signed personally by all their authors.

Insulin: U40, U80, or U100?

SIR,—Mistakes in insulin dosage arise all too frequently from confusion between units of insulin and marks on the insulin syringe and sometimes from changes in the strength of insulin prescribed. In a small survey carried out in the United States in 1967 no less than 50% of diabetics were making some error in insulin dosage, largely due to the use of different strengths of insulin.¹ To overcome such mistakes the different strengths of insulin are being replaced in the US and Canada by a single strength—namely, 100 U/ml (U100). Syringes designed in the US for use with U100 insulin are graduated in units rather than in multiples of units.

The British Diabetic Association has recently completed a small, simple, multicentre trial of U100 insulin to assess its acceptability to diabetics in Britain. U100 insulin was supplied by the British insulin manufacturers as soluble, isophane, and lente. Syringes were either of 1.0-ml or 0.35-ml capacity. The 1.0-ml syringes were either graduated at 1-U increments, or at 2-U increments, with a numerical designation at each 10-U graduation; the 0.35-ml syringes were graduated at 1-U increments.

One hundred and ten adult diabetics used U100 insulin for one month, 48% having previously used U40 insulin and 52% U80 insulin. Many patients used mixtures of insulin and six patients had to measure 6 U or less of one sort of insulin. Of patients previously using U40 insulin 52% preferred U100, 29% had no preference, and 19% preferred U40. Of patients previously using

U80 insulin 64% preferred U100, 21% had no preference, and 15% preferred U80.

About half of the patients preferred the BS1619 insulin syringe to their new syringe, but this was largely because of minor features of design in the new syringes which could easily be improved. The 1.0-ml syringe graduated at 1-U increments was unsatisfactory because the graduations were too close together, but only three of 70 patients using the 1.0-ml syringe graduated at 2-U increments or the 0.35-ml syringe had this problem. None of the six patients measuring 6 U or less had any difficulty in accurate measurement of these small doses.

There were no significant changes in diabetic control when switching to U100 insulin except in three patients who calculated their dose as if they were using a BS1619 insulin syringe, which underlines the importance of careful instruction when changing to a syringe graduated for units of insulin.

Thus 83% of diabetics either preferred U100 insulin or had no preference; U100 insulin was found to be consistent with accurate measurement of small doses, as has been reported in American trials,² and minimises the volume of injection.

A disadvantage of adopting U100 insulin in Britain is that at present other European countries are not in favour of doing so. This is largely because in other European countries about 90% of diabetics on insulin use U40 so that problems from having two strengths available are apparently rare. In Britain, however, about half the diabetics on insulin

use U40 and half U80. We feel that our present system is unsatisfactory and that a single strength of insulin for general use is desirable even though other strengths may very occasionally be required. We would recommend the withdrawal of U40 and U80 insulins and their replacement by U100 insulin, which this trial suggests would be preferred by diabetics.

JOANNA SHELDON (Brighton) K J GURLING
D M HILL T R E PILKINGTON
BRIAN F BREARLEY T M HAYES
P EDWARD DIPPLE PETER SONKSEN
ARNOLD BLOOM T D R HOCKADAY

¹ Watkins, J D, et al, *American Journal of Public Health*, 1967, 57, 452.

² Rosenbloom, A L, et al, *Physicians Drug Manual*, 1971, 2, 142.

Coronary artery disease and coalworkers' pneumoconiosis

SIR,—Though the arguments offered for debate by Dr Dewi Davies's article (16 October, p 925) are numerous, they come down to this: in his view the opinions given by the Pneumoconiosis Medical Panel doctors in cases of death from coronary artery disease in coalminers with advanced pneumoconiosis are "irrational and based on entirely faulty deductions" and therefore, by implication, would seem to be at odds with generally received medical knowledge. The fundamental point at issue is whether the occurrence of myocardial infarction and of sudden death due to cardiac arrest or ventricular fibrillation following infarction is significantly more (or less) probable in the presence of advanced progressive massive fibrosis (PMF) or other chronic lung disease than in their absence. By sudden death we mean death occurring instantaneously or within minutes or hours.