

due to the absence of the first pass phenomenon.

We have no experience of the combination of verapamil and prazosin alluded to by Dr Elliott and colleagues. The possibility of an added hypotensive effect, beyond that of either agent given singly, of a calcium antagonist and prazosin is of great interest and in line with our observations. We agree that the combination warrants further careful evaluation. In the case of nifedipine and prazosin, we have continued to use the combination after the acute testing procedure described in our report.

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Exercise tests

SIR,—In his comment on our response to his original reference Dr C C Harling (3 December, p 1719) says we “criticised my [his] study.” In our reply (29 October, p 1306) we pointed out that examining the accuracy of our test to detect coronary artery disease requires, at least, that the same exercise test be used in comparison with coronary arteriography. Our criticism was concerned *only* with the point that his test results did not refute the accuracy of our test as he had not repeated our test.

We note in his comments that Dr Harling accepts that his exercise test is different from the exercise test used in Leeds—for example, he used a “single lead V5” in contrast to the Leeds test, in which 13 leads are used. In addition, he used a “single larger exercise step . . .” in contrast to the Leeds test, in which several steps of small increments in workload are used after tailoring the magnitude of each step for the individual patient. Furthermore, Dr Harling essentially examined the accuracy of “prediction” of “the future incidence of coronary events . . .”; in Leeds the accuracy of prediction of coronary heart disease entails comparison of results of the exercise test with results of coronary arteriography.

We suggest that before postulating any explanation for differences between Dr Harling’s results and those by the Leeds group, it is essential first to refute that different tests and protocols of studies could lead to differences in results.

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*.*This correspondence is now closed.—Ed,
BMJ.

Speed test

SIR,—The classified advertisements section of the issue of 12 November carried the following item (ref 187/83): “. . . particulars and applications (returnable by 18 November) from. . .”

To my knowledge, this was the first occasion on which this consultant post was advertised. Given the likelihood that the issue of 12 November would not be seen by many of the interested parties before 14 November, the

question arises whether it would be feasible to submit such an application other than by collecting and returning the appropriate forms personally.

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*.*This advertisement was received on 4 November and published on 12 November, the next available issue.—Ed, *BMJ*.

“The Discovery of Insulin”

SIR,—The review of *The Discovery of Insulin* (3 December, p 1695) endorses a view that is unjust in its appreciation of Frederick Grant Banting, described as insecure, bullheaded, stubborn, and paranoid. The experiments originated by him, while “wrongly conceived, wrongly conducted and wrongly interpreted,” did succeed “where others had failed,” and although it is true that insulin “was just waiting to be discovered,” so just waiting to be discovered now is the prevention of diabetic vascular complications and rightful acknowledgment will go to whoever is bullheaded, stubborn, and paranoid enough to make this discovery.

Michael Bliss’s book is fascinating and most readable and provides new insights, but we must not lose the perception and perspective of J R Henderson in quoting John Stuart Mill “a man with a conviction is worth twelve men with ideas.”¹ Banting was the man with the necessary conviction at the right time in the right place. Omit Banting’s name from the story and insulin is not discovered in 1921–2. Otherwise by 1923 many hundreds of diabetics would die (and a below the belt comment would include in that number, Robin Lawrence and George Minot).

These comments do not represent a criticism of the reviewer, but do state the view that while there is “new” history of the discovery of insulin the “old” history may not necessarily be incorrect, nor does it lack supporters.

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¹ Medvei VC. *A history of endocrinology*. Lancaster: MTP Press Ltd, 1982:470.

The employment of diabetics

SIR,—I should like to contest several points made by Dr John Lister in his leading article on the employment of diabetics (15 October, p 1087).

On what authority can he say that insulin dependent diabetics “should not work on scaffolding, or near moving machinery, nor should they drive public service or heavy goods vehicles?” The law, as I understand it, allows them to do all those jobs. They cannot hold a commercial airline pilot’s licence, as they are prevented by international treaty from doing so, nor can they drive a passenger train, as the result of an agreement between British Rail and the unions. They may and do work on scaffolding, near moving machinery, serve in the armed forces (including the police force) and even go so far as to work as physicians and surgeons.

Clearly what Dr Lister omitted were the words “in my opinion.” He refers to the

undeniable risks of hypoglycaemic reactions that “could endanger themselves and other people.” He does not cite any bona fide published studies that show that insulin dependent diabetics are a greater risk; I suspect such studies do not exist.

Alcohol and hypoglycaemia are both capable of impairing judgment. The case for alcohol being responsible for accidents is now beyond dispute, and the law has been amended appropriately. The case for hypoglycaemia as a similar hazard in diabetics treated with insulin (as well as those dependent on it) has not been proved, and it seems inappropriate to me that, without such evidence, a doctor should pass judgment that may lead to discrimination against his patients. A current research project of our own on “controlled hypoglycaemia” has indeed shown that impairment of intellectual performance is a very late feature of hypoglycaemia not able to be seen at blood glucose values as low as 1.5 mmol/l (27 mg/100 ml) when abnormalities in electroencephalographic and visual function are easily measurable.

Before we accept that diabetic patients treated with insulin are a public hazard it would not seem unreasonable to me to insist on seeing the results of a properly designed and controlled prospective study which proves beyond reasonable doubt that these patients are an increased risk and that this is due to hypoglycaemia; this study must include blood glucose values measured at the scene of the accident. If and when those data are available then, in my opinion, the correct action would be to change the law to prevent patients treated with insulin from taking up these jobs in the first place. Some form of industrial pension must then be provided for those who are put out of work by their disability and can find no substitute. The importance and need for controlled studies is nicely shown in the article by Dr Allan Hjortrup and others (15 October, p 1107) in which the “well known” increased postoperative morbidity among diabetics is shown to be a myth.

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SIR,—Professor Sönksen seems to have failed to appreciate that the major objective of my article on the employment of diabetics was to point out that most diabetics, whether taking insulin or not, are able to follow almost any occupation. Diabetics taking insulin may, however, be liable to hypoglycaemic attacks that can lead to loss of consciousness, and it is surely prudent to advise that such diabetics should not be employed in occupations where these attacks could endanger themselves or others. It might have been better not to mention specifically the hazards of working on scaffolding or near moving machinery, but these were only cited as examples. Clearly each patient should be advised individually according to his understanding of the management of his diabetes, the state of his diabetic control, and his liability to hypoglycaemic symptoms.

I do believe, however, that occupations involving driving are a special case and all diabetics taking insulin must have a particularly responsible attitude towards driving.

I agree with Professor Sönksen that it would be useful to have more hard data to