- 11 International Labour Office. *International standard classification of occupations*. Geneva: ILO, 1968.
- 12 Department of Statistics. *1980-1981 New Zealand census of fishing*. Wellington: Department of Statistics, 1981.
- 13 World Health Organisation. *Manual of the international statistical classification of diseases, injuries and causes of death*. Geneva: WHO, 1977.
- 14 Rothmans KJ, Boice JD. *Epidemiologic analysis with a programmable calculator*. Washington: National Institute of Health, 1979.
- 15 Fishing Industry Training Council. *New Zealand deep water trawlers—an organisational needs analysis*. Wellington: New Zealand Fishing Industry Board, 1987.
- 16 Fishing Industry Training Council. *Deck safety—a workbook for fishermen aboard deepwater trawlers (accompanies educational videotape)*. Wellington: New Zealand Fishing Industry Board, 1988.
- 17 Rodahl K, Vokac Z, Fugelli P, *et al.* Circulatory strain, estimated energy output and catecholamine excretion in Norwegian coastal fishermen. *Ergonomics* 1974;17:585-602.
- 18 Rodahl K, Vokac Z. Work stress in Norwegian trawler fishermen. *Ergonomics* 1977;20:633-42.
- 19 Chmielewski J, Zugas A, Nahsorki W. Evaluation of the efficiency of the circulatory system in the crew of a fishing ship during a 5 month cruise. *Bull Inst Marit Trop Med Gdynia* 1974;25:437-41.

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An attempted suicide when hypoglycaemic

The Guardian newspaper for 22 March 1989¹ reported that "human insulin may hold risks for diabetics." The article focussed on the fact that human insulin (genetically engineered) may eliminate the symptoms and signs of hypoglycaemia such as sweating, paraesthesia, and palpitations. Many diabetics rely on the effects of a low blood sugar as part of the regulatory mechanism.

The Guardian article was based on the March edition of the *Drug and Therapeutics Bulletin*.²

Case report

A 46 year old man with a 35 year history of diabetes presented to his general practitioner. He complained of insomnia, irritability, depression, and emotional outbursts. This consultation took place shortly after the diabetic clinic of the local hospital changed him from beef to human insulin.

He was started on amitriptyline but there appeared to be little or no improvement. One of the authors (ELT), working in occupational medicine, knew of the history and was also aware of poor work performance that included poor memory capability and impaired concentration. In consultation with the general practitioner a referral was arranged to a local psychiatric hospital.

When he was interviewed by a psychiatrist (SPM) his history showed a recent episode of physical violence with suicidal ideas centred on the administration of an overdose of insulin. His mental state at the outpatient interview was normal. Admission was, however, arranged for full assessment and the differential diagnosis was depression or emotional lability owing to the uncontrolled diabetic state. A diagnosis of depression was not supported by the Beck depression inventory. During a five day in patient stay there was no evidence of psychiatric disorder but a consultant physician specialising in

endocrinology confirmed the finding of poorly controlled diabetes. The patient was, at this stage, kept on human insulin. At the time of discharge and a subsequent review his mental state was normal but his diabetic control remained erratic.

Two weeks after discharge he injected himself with insulin on three occasions over four hours. This was with definite suicidal intent associated with rage and frustration. He was promptly readmitted and dextrose was administered intravenously to correct the hypoglycaemia. After a review of the treatment for his diabetes a change to beef insulin took place. Since then he has been well, has performed his job to a good standard, and is studying hard for an Open University degree.

Comment

This man, who had no previous history of psychiatric illness, would appear to have suffered a profound impairment of his mental functioning that damaged his work performance. His domestic relations became strained and his behaviour threatened his own life. The perception of hypoglycaemia is important to diabetics although the mechanisms are not fully understood. It is well established that human insulin can compromise subjective awareness of hypoglycaemia.

All doctors should be aware of recent changes in insulin therapy when assessing psychiatric problems in diabetics.

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- 1 Erlichman J. Human Insulin may hold risks for diabetics. *The Guardian* 1989 March 22:4(col 7-8).
- 2 Human insulin: an update. *Drug and Therapeutics Bulletin*. Vol 27. No 6. March 1989.