fact have released the excess by locally unbinding antibody from the abnormal cells. The dilemma will be side-stepped when sarcoidosis is diagnosed earlier.—I am, etc.,

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¹ Bernstein, D. S., Thorn, G. W., and Jackson, J. H., *Journal of Clinical Endocrinology and Metabolism*, 1965, 25, 1436.

² Karlsh, A. J., and MacGregor, G. A., *Lancet*, 1970, 2, 330.

Hyperinsulinism and Atherogenesis

SIR,—We have recently shown that hyperinsulinaemia develops in about 25% of young men given a diet in which a great part of the starch was replaced by sucrose.^{1,2} The level of insulin is raised slightly in the fasting plasma, but more so after provocation with an oral dose of glucose. We have now demonstrated that these men, whom we have labelled as subject to "sucrose-induced hyperinsulinism" show a much more dramatic increase in glucocorticosteroid.

We selected 11 young volunteer men who in previous experiments had shown sucrose-induced hyperinsulinism and once again put them on a diet in which much of the starch was replaced by sucrose but in which the total carbohydrate, protein, and fat (and thus the calories) were unchanged. At the end of two weeks the insulin levels had increased from 15.8 to 21.2 $\mu\text{U/ml}$ in fasting plasma, and from 56 to 96 $\mu\text{U/ml}$ 30 minutes after 50 g oral glucose. At the same time, the levels of fluorogenic corticosteroids (11-OHCS) in fasting plasma had increased more than three-fold—from 11.4 to 39.3 $\mu\text{g/100 ml}$. In three subjects in which the high sucrose diet had not produced sucrose-induced hyperinsulinism there was no significant change in the levels of fluorogenic corticosteroids.

We have suggested that the possible role of dietary sucrose in atherogenesis might be mediated through its action in producing hyperinsulinism in susceptible persons. We now have to ask whether a more direct effect of sucrose is that it produces, in the same susceptible individuals, a much more striking rise in glucocorticosteroid activity.—We are, etc.,

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¹ Szanto, S., and Yudkin, J., *Postgraduate Medical Journal*, 1969, 45, 602.

² Yudkin, J., and Szanto, S., to be published.

Peritonitis in Hyperosmolar Non-ketotic Diabetic Coma

SIR,—I wish to report a further case of peritonitis and bowel ischaemia occurring as a complication of hyperosmolar non-ketotic diabetic coma in a West Indian man.

This man was a 68-year-old Jamaican with no previous apparent history of diabetes or other serious illness. He was admitted in coma with blood sugar 1,000 mg/ml and electrolytes similar to those described in the two cases in the *British Medical Journal* (9 January, p. 85). He was in renal failure and had to be dialysed peritoneally on the second day after his admission. Two days after the peritoneal dialysis was set

up he was in good fluid, electrolyte, and glucose balance, but remained comatose and faecal material was found to be draining from the peritoneal catheter. He died two days after this incident.

Necropsy showed areas of avascular bowel, with one area showing healed perforation. He had free pus in the peritoneum but no large-vessel thrombosis was demonstrated.

I am, etc.,

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Action of Bromhexine on Mucus

SIR,—In the paper by Dr. W. F. D. Hamilton and others (1 August, p. 260) I have noted their comments about bromhexine and its effects on mucoid and viscous sputum in chronic bronchitis with interest.

The increased viscosity of bronchial secretions in crush chest injuries, usually caused by intra-alveolar haemorrhage and prolonged intermittent positive pressure ventilation therapy, is a difficult problem. It is essential therefore that inspired air must be humidified and a suitable mucolytic drug should be used to break up the mucopolysaccharide complex. Bromhexine has been used up to 12 mg per day while the patient has been receiving ventilation therapy. This has been found to be of value in the management of crush injuries of the chest.—I am, etc.,

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Pancytopenia and Meprobamate

SIR,—Meprobamate is widely used in Cyprus as a hypnotic drug. Blood dyscrasias due to this drug are almost unknown and only one fatal case of aplastic anaemia has been reported.¹ This developed in a 28-year-old woman after ingestion of 1.2 g of meprobamate for eight days. Meprobamate is also mentioned as causing pancytopenia in a registry on blood dyscrasias.² No report of agranulocytosis or aplastic anaemia, such as the one quoted above, has appeared up to 1964,³ and in searching the literature we could find no such reports since 1964.

A 65-year-old woman was admitted to the Famagusta Hospital on 16 March 1970 with a 40-day history of general weakness, tiredness, shortness of breath on exertion, and spontaneous bruising. She was suffering from insomnia and had been taking meprobamate (400 mg tablets), two to three tablets at night regularly for one year. She had also been taking guanethidine 10-mg tablets, one twice daily, for hypertension for one month, which, however, she discontinued three months before the onset of symptoms. She was not taking any other kind of tablets, and there was no history of exposure to chemical or noxious agents.

On examination she was very anaemic and had a widespread petechial rash; there was no lymphadenopathy; the spleen and liver were not palpable. Investigations: haemoglobin 24%, R.B.C. 1.2 millions/ mm^3 ; W.B.C. 2,300/ mm^3 ; neutrophils 20%; lymphocytes 79%; eosinophils 1%; platelets 30,000/ mm^3 . Bone-marrow aspiration revealed severe depression of granulopoiesis and erythropoiesis, and no megakaryocytes were seen in the films examined. The picture was consistent with pancytopenia. X-ray chest: heart was enlarged; lung fields and mediastinum normal.

She was treated with prednisone and antibiotics and had several transfusions of whole

blood. There was no response to steroids at all. Platelets and W.B.C. remained always low. On 16 May 1970 she developed haematuria, which persisted until death. On 15 June 1970 she had severe melaena, and died three days later despite repeated transfusions of fresh blood. W.B.C. one day before death was 500/ mm^3 ; platelets 40,000/ mm^3 . She was given altogether 40 pints (23 l.) of blood. The relatives refused necropsy.

Guanethidine, which the patient took for one month, has not been recorded as causing bone-marrow depression⁴ and besides this was discontinued before the onset of symptoms. It is therefore unlikely that it has caused the pancytopenia. There remains meprobamate as the only probable cause. The fact that the patient took a large amount of the drug (800–1,200 mg daily for one year) before she developed the illness suggests a toxic effect on the bone marrow.

I would like to thank Mr. M. Stylianou, chief laboratory technologist, and Mr. A. Karoullas and T. V. A. Harry, of John Wyeth and Brother Ltd., for their kind assistance in preparing this report.

I am, etc.,

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Famagusta Hospital,
Famagusta, Cyprus

¹ Meyer, L. M., Heeve, W. L., and Bertscher, R. W., *New England Journal of Medicine*, 1957, 256, 1232.

² American Medical Association Council on Drugs, *Journal of the American Medical Association*, 1962, 179, 888.

³ Cronie, B. W., *British Medical Journal*, 1964, 1, 562.

⁴ Martindale's *Extra Pharmacopoeia*, p. 1238. London, Pharmaceutical Press, 1967.

Diabetes Mellitus and Cancer

SIR,—Your leading article on diabetes mellitus and cancer (24 October, p. 191) appears to accept the opinion that the genetic constitution of the Jew favours the development of diabetes. Many years ago famous specialists formed this impression because many of their patients were Jews, a fact which indicates the inclination of some Jews to consult such physicians but does not prove the prevalence of the disorder among Jews.

Analysis of the incidence of diabetes in Israel¹ has shown that the figures for Jewish immigrants from Europe, North America, and South Africa (about 2.5%) were similar to those found in Western countries.² Further, if genetic factors were particularly active in the group one might expect juvenile diabetes to be especially common but this is not the case. Percentages were even very low (for example, 0.06%) for Jewish immigrants from Yemen and Kurdistan during their first decade in Israel. Figures were higher for older residents from these countries who had adapted themselves to Western modes of living, and after 25 years percentages for the incidence of diabetes were similar to those obtained for Western populations.

Such findings are consistent with the view that environmental factors play a part in diabetes but they do not support the thesis that Jews are genetically prone to develop the disease.—I am, etc.,

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Jerusalem, Israel

¹ Cohen, A. M., *Metabolism*, 1961, 10, 50.

² Joslin, E. P., Root, H. F., White, P., and Marble, A., *Treatment of Diabetes Mellitus*, 10th edn., p. 19, Philadelphia, Lea and Febiger, 1959.