Letters to the Editor

Influence of mebendazole administration on metabolic control in Type 1 (insulin-dependent) diabetic patients

Dear Sir,

It has recently been suggested that in Type 1 (insulin-dependent) diabetes, mebendazole improves glycaemic control and increases C-peptide secretion [1]. We have conducted a study in 12 poorly controlled Type 1 diabetic patients (Table 1). Mebendazole (Vermox, Janssen Pharmaceuticals, Beerse, Belgium) was administered orally at a dose of 200 mg/day for 3 days, and, thereafter, at 100 mg/day throughout the 30-day study period. All patients continued their usual diet, ranging from 1500 to 2000 calories/day (carbohydrate 50%, fat 30%, protein 20%) and their usual mixtures of short- and long-acting insulin.

At the beginning of the study and at the end of the 30-day treatment period, after an overnight fast, all patients attended the outpatient clinic for measurement of glycaemic profiles, 24-h urinary glucose, total glycosylated haemoglobin (HbA_{1c}) and C-peptide levels. The results are shown in Table 1.

Although there was a trend towards a decrease in blood glucose levels at day 30, this decrease was not significant. Mean HbA_{1c} levels did not decrease and no changes in 24-h urinary glucose output were demonstrated. Fasting and post-prandial C-peptide levels did not change following the 30-day treatment period.

In a sub-group of patients ($n=5$), who demonstrated C-peptide secretion (fasting C-peptide ≥ 0.15 pmol/ml and post-prandial C-peptide ≥ 0.30 pmol/ml), similar non-significant decreases in both mean fasting and post-prandial plasma glucose levels were observed.

Although Lefebvre and Luyckx [2] demonstrated an imidazole-related increase in insulin secretion in dogs in 1971 and Kameda et al. [3] postulated that the imidazole derivative DG 5128 could stimulate glucose-induced insulin secretion in 1982, the recent report by Caprio et al. [1] was the first to outline some clinical effects of this compound in diabetes. However, our results do not confirm the findings of their preliminary study.

Yours sincerely,
L. F. Van Gaal and I. H. De Leeuw

Table 1. Results of the administration of mebendazole before and after 30 days of treatment in 12 Type 1 diabetic patients

	Before mebendazole treatment	30 days after mebendazole treatment
Age (years)	48 $\pm$ 12	
Duration of diabetes (years)	7 $\pm$ 4	
Weight (kg)	66 $\pm$ 9	66 $\pm$ 9
Daily insulin dose (U/day)	55 $\pm$ 37	53 $\pm$ 39
Fasting blood glucose (mmol/l)	12.3 $\pm$ 4.3	10.0 $\pm$ 5.8
Post-prandial glycaemia (mmol/l)	16.2 $\pm$ 3.7	13.8 $\pm$ 5.7
Mean blood glucose (mmol/l)	12.2 $\pm$ 3.2	10.4 $\pm$ 5.1
Fasting C-peptide (pmol/ml)	0.20 $\pm$ 0.18	0.23 $\pm$ 0.15
Post-prandial C-peptide (pmol/ml)	0.60 $\pm$ 0.45	0.45 $\pm$ 0.38
HbA _{1c} (%) ^a	10.7 $\pm$ 1.3	10.6 $\pm$ 2.6
24-h-urinary glucose (g/24 h)	29.3 $\pm$ 23.8	24.9 $\pm$ 24.2

Results expressed as means $\pm$ SD. ^a Normal range for HbA_{1c}: 5–7%

References

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Dr. L. F. Van Gaal
Department of Endocrinology, Metabolism and Nutrition
University of Antwerp
Universiteitsplein 1
B-2610 Wilrijk
Belgium

Physical activity and prevalence of diabetes

Dear Sir,

In a recent article in *Diabetologia*, Taylor et al. presented age-standardised prevalence of diabetes in Fiji Indians, this being very similar in rural (12.1%) and urban (12.9%) men [1, Table 1]. However, in their Table 2 where prevalence of diabetes is given, in addition, by two grades of activity level, the prevalence rates are substantially higher in rural men (27.9 and 11.1% versus 15.6 and 8.0%, respectively). I realise that the method of age adjustment is different in the two Tables but cannot see that this explains the discrepancy. I suspect the figures for rural men in Table 2 are incorrect and wonder if this affects the statistics of Table 4.

Assuming Table 1 to be correct, then the data for Melanesians do support the authors' view that 'activity' may be related to prevalence of diabetes. However, the Indian data are not in accord with this notion. Thus, age-adjusted prevalence is (see above) very similar in rural and urban men despite very large differences in the proportions in sedentary/light and moderate/heavy activity groups. As the urban men, 73% of whom fall into the sedentary/light category, are also, on average, fatter, what is protecting them from even more diabetes if the authors' view is correct?

Yours sincerely,
R. J. Jarrett

References

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Professor R. J. Jarrett
Department of Community Medicine
United Medical Schools (Guy's Campus)
London SE1 9RT
UK