

T4 and T3 occurred after the first dose of fenclofenac, but this would not explain the depressed TRH response seen on day 14. The repeated administration of TRH is unlikely to be responsible for this effect.⁴ It appears that fenclofenac, in addition to displacing thyroxine from its binding sites, has a thyroxine-like effect on the pituitary gland causing partial inhibition of the thyrotrophin response to TRH. We conclude that care must be taken to avoid a spurious diagnosis of hypothyroidism during fenclofenac treatment. The postulated effect of fenclofenac on the pituitary gland is being investigated.

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Are reflectance meters necessary for home blood glucose monitoring?

Tattersall recently discussed the role of reflectance meters in home blood glucose monitoring.¹ A major factor limiting their wider use is their high cost.² The Haemoglukotest 20-800 reagent strip (Boehringer Mannheim) offers a considerable saving in capital outlay, since it can be read by eye alone.³ We discuss its possible role in home blood glucose monitoring.

Patients, methods, and results

The Haemoglukotest is specific for glucose. It has two separate test areas, whose indicators permit differentiation of eight pairs of colours corresponding to 1.1, 2.2, 4.4, 6.7, 10.0, 13.3, 22.2, and 44.4 mmol glucose/l blood (20, 40, 80, 121.8, 181.8, 241.8, 403.6, and 807.3 mg/100 ml).

Estimations of blood glucose concentrations (mmol/l) performed at clinic and at home with Haemoglukotest, and mean (±95% confidence limits) blood glucose concentrations (mmol/l) determined by autoanalyser and reflectance meter in these test samples

Haemoglukotest value	1.1	2.2	4.4	6.7	10.0	13.3	22.2	44.4
No of clinic tests having value	4	12	23	19	15	22	7	0
Mean concentrations by autoanalyser	1.1±2.9	3.0±1.1	4.6±2.3	7.6±2.8	10.6±3.6	14.4±4.1	19.4±3.4	
No of home tests having value	0	18	54	66	72	28	4	0
Mean concentrations by reflectance meter		3.2±1.1	4.8±2.0	6.9±3.4	10.5±3.2	15.2±5.2	23.6±10.0	

Conversion: SI to traditional units—Blood glucose: 1 mmol ≈ 18 mg/100 ml.

Random venous blood samples were taken from 32 diabetic children, 24 non-diabetic children, and three small-for-dates babies who were transiently hypoglycaemic at birth. Part of the sample was tested by the patient, his parent, or both independently using the Haemoglukotest. If the test colour did not exactly correspond to any of the eight values, the tester was asked to choose the nearest match. A total of 102 assessments were made on 59 blood samples, which were then tested in the laboratory autoanalyser by a modified glucose oxidase method.

Five diabetic patients, experienced in monitoring blood glucose concentrations at home using a Glucocheck reflectance meter (Medistron) and Dextrostix reagent strips (Ames), were asked to make an independent assessment of their blood glucose concentration at each test using the Haemoglukotest. Results of 242 pairs of tests were recorded by these five patients.

The table shows the number of tests performed in the clinic and at home corresponding to each Haemoglukotest value and the range of blood glucose concentrations (mmol/l; within 95% confidence limits) of these same samples tested by the autoanalyser and Glucocheck reflectance meter respectively.

Comment

A high overall correlation was obtained between the concentrations determined with the Haemoglukotest and the mean values measured by the autoanalyser and reflectance meter (mean value determined by autoanalyser = 1 + 0.88 × Haemoglukotest value, r = 0.98; mean value determined by reflectance meter = 0.2 + 1.08 × Haemoglukotest value, r = 0.99). The main disadvantage of the Haemoglukotest was its inability precisely to identify hypoglycaemia and hyperglycaemia at concentrations of 2.2 and 10.0 mmol/l (40 and 181.8 mg/100 ml) respectively.

The Haemoglukotest value of 2.2 mmol/l (40 mg/100 ml) corresponded to a range in blood glucose concentrations of 1.9-4.1 mmol/l (34.5-74.5 mg/100 ml; p < 0.05) as measured by the autoanalyser and 2.1-4.3 mmol/l (38.2-78.2 mg/100 ml; p < 0.05) as measured by the reflectance meter. Similarly, the Haemoglukotest value of 10.0 mmol/l (181.8 mg/100 ml) corresponded to a range of 7.1-14.2 mmol/l (127.3-258.2 mg/100 ml; p < 0.05) and 7.3-13.7 mmol/l (132.8-249.1 mg/100 ml; p < 0.05) as measured by the autoanalyser and reflectance meter respectively. This need not be a major drawback if these values are interpreted in a clinical context. The values of 13.3 and 22.2 mmol/l (241.8 and 403.6 mg/100 ml) constantly represented blood glucose concentrations in the hyperglycaemic range while that of 1.1 mmol/l (20 mg/100 ml) represented four samples all of which had concentrations under 2.2 mmol/l (40 mg/100 ml). On the other hand, the values of 4.4 and 6.7 mmol/l (80 and 121.8 mg/100 ml) almost always corresponded to blood glucose concentrations (as measured by the autoanalyser and reflectance meter) within the normal range.

The main advantages of the Haemoglukotest were simplicity and convenience. Furthermore, 25 strips cost £2.90 compared with a cost of £91.00 for a Glucocheck meter and £2.65 for 25 Dextrostix strips. We conclude that the Haemoglukotest 20-800 offers a simple, cheap alternative method of monitoring blood glucose concentrations at home.

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Correction

Jet injection of insulin

A printing error occurred in this paper by Dr R Worth and others (13 September, p 713). The age range mentioned in the first sentence of Patients, methods, and results should have read "17-78."