

The basal plasma glucose: a simple relevant index of maturity-onset diabetes.

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The 'basal' plasma glucose, defined as the stable overnight concentration, has been assessed as an index of diabetes control by comparison with plasma glucose measurements during 24-h profiles in diet-treated maturity-onset diabetic patients and normal subjects. The basal plasma glucose correlated with the total ( $r=0.98$ ) and incremental ( $r=0.86$ ) glucose areas, as well as the 24-h M value ( $r=0.90$ ). In mild diabetes the basal value was more abnormal than the incremental glucose area after meals, since 3 h after meals 'reactive hypoglycaemia' lowered the plasma glucose to less than the basal value. Thus diabetics with a raised basal glucose up to 8 mmol/l can have a normal 3-h post-prandial value. A raised basal plasma glucose provides similar diagnostic information to conventional oral glucose tolerance tests and provides an apposite measure of diabetes control. Diabetics who come up to a clinic, or who exercise whilst fasting, have fasting plasma glucose and insulin concentrations slightly higher than their overnight 'basal' levels, whereas there is little change in normal subjects. This higher 'stressed fasting' plasma glucose needs to be taken into account when assessing fasting plasma glucose values.