

Monitoring Control

Q. Does information revealed by HbA_{1c} improve control of glycamia in a diabetic?

A. HbA_{1c} provides a reliable index of long term diabetic control. In normal individuals the HbA_{1c} is usually less than 7%. Values between 6-9% indicate very good metabolic control, values of 9-12% fair control and above 12% poor control. Glycoglobin (HbA_{1c}) represents the fraction of hemoglobin to which glucose has been non-enzymatically attached. This reaction continues irreversibly throughout the red blood cells' life span of approximately 120 days. The higher the blood glucose concentration and the longer the red cell's exposure to it, the higher is the fraction (percentage) of HbA_{1c}. Thus, HbA_{1c} levels neglect the average blood glucose concentration during the preceding 2 months. Thus, the measurement of HbA_{1c} is superior to measurements of single blood glucose levels as an index of long-term diabetic control. Periodic measurement of HbA_{1c} may also help to prevent or postpone the subsequent development of complications. [P.S.N.M.]

Q. Which patients should be motivated to do self-monitoring of glucose levels in the home setting?

A. As earlier stated, success in management of a diabetic child can be measured to a considerable extent by the competence acquired by the child and his/her family to monitor his/her diabetic control. Self-monitoring is essential in such a plan where measurement of blood glucose several times a day and recording of these observations is

required. It also helps to educate newly diagnosed diabetic children. In the initial phase, especially following discharge from hospital, daily blood glucose measurements should be continued as long as they are acceptable to the child. Few children tolerate blood-letting 4 times a day daily for a long period. Hence, after initial stabilization for several weeks, when the meal plan and insulin administration pattern are established, we advise blood glucose estimation twice a week, varying the days each week to get a representative profile.

More frequent monitoring is required (1) when there are symptoms suggestive of hypoglycemia,(2) when persistent glycosuria hyperglycemia is present,(3) for children on intensive insulin therapy and (4) for IDDM patients who have lost their warning signs and symptoms of hypoglycemia attacks. [P.S.N.M.]

REFERENCES FOR FURTHER READING:

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