

# EDITORIAL

## Standards of Follow-up

The information relating to standards of follow-up is presented in two parts.

Checklist for follow-up.

IDDM

NIDDM

Monitoring

### INSULIN-DEPENDENT DIABETES

IDDM patients should schedule follow-up as follows:-

- 1) Glycaemic control if stable 2-3 times per week; if unstable 2-3 times a day.
- 2) Sometimes a profile of blood glucose 6-7 times in 24 hrs would provide a composite picture.
- 3) Body weight, monthly.
- 4) Blood pressure, monthly.
- 5) Haemoglobin A<sub>1</sub>C, quarterly.
- 6) Urine analysis (glucose, ketones, micro albuminuria), biannually.
- 7) Blood urea, serum creatinine, biannually.
- 8) Lipid profile (cholesterol, triglycerides, HDL-C), biannually.
- 9) Visual acuity, fundus examination, annually.
- 10) E.C.G., annually.
- 11) X-ray chest, annually.

### NON-INSULIN-DEPENDENT DIABETES

- 1) Glycaemic control if stable once a month, if unstable more frequently.
- 2) Body weight, monthly.
- 3) Blood pressure, monthly.
- 4) Feet examination, monthly.
- 5) Haemoglobin A<sub>1</sub>C, quarterly.
- 6) Urine analysis (glucose, ketones, microalbuminuria), biannually.
- 7) Blood urea, serum creatinine, biannually.
- 8) Lipid profile (cholesterol, triglycerides, HDL-C), biannually.
- 9) Visual acuity, fundus examination, annually.
- 10) E.C.G., annually.
- 11) X-ray chest, annually.

### MONITORING

Monitoring is meant to help the diabetic adjust treatment according to his/her diabetes status.

It includes

- a) State of general health-like freedom from symptoms.
- b) Weight record to achieve standard weight.

- c) Evaluation of diet and exercise regimen to achieve adequate balance.
- d) Blood glucose determinations.
- e) Overall status of metabolic control and its liability.

A diabetic should undergo a composite physical examination annually and as well be screened for any end organ involvement. Monitoring does not replace the care by the physician. Compositely, a diabetic should learn by self urine testing (glucose and ketones), blood testing (glucose) and acquire knowledge to interpret the results and thereof adjust management schedule.

### Blood Glucose Measurement

Blood Glucose monitoring using enzyme impregnated strips allows reliable detection of hypoglycaemia and hyperglycaemia. The strips can either be read visually against a colour chart or a meter can be used. This is accurate for a range of blood sugar values; for values below 40 or above 250 mg/dl it may not be so precise.

The prevailing blood sugar guides the patient in making adjustments in diet and insulin does as to achieve a good blood glucose control. Again in event of being uncertain, it can immediately indicate if there is hypoglycaemia or hyperglycaemia.

Self-monitoring of blood glucose is most recommended for the following categories of diabetes:

#### I. Pregnant women

This is to ensure ideal euglycaemia for 24 hours.

There is enough evidence that foetal and maternal outcome is most successful and without complication if control of blood glucose in pregnancy is maintained as near to normality as possible.

#### II. Diabetes with unstable glycaemia

In such instances, administration of insulin should be 4 times/day (regular insulin before each meal and intermediate-acting insulin at supper time). Blood glucose check is done atleast two times/day (one pre-meal/one post-meal) for 7 days and this provides a composite picture for readjustment of treatment schedule.

Usually children requiring > 40 units insulin/day will fall in this category.

III. Other categories in which frequent monitoring is recommended will include:

- a) Diabetic with variable renal threshold.
- b) Patients with hypoglycaemia unawareness.
- c) Changing time zones, traveling and meal times not being on schedule.
- d) Patients receiving insulin for stabilization for a major surgical operation.

IV. Patients being put on insulin pump or CSII

Urine tests for glucose are usually carried out by means of strips impregnated with reagents commonly based on glucose oxidase reagent.

Urine glucose is at best a crude measure of blood sugar control and depends on renal threshold, total period of urine collection in the bladder, potential interference if the diabetic is on some drugs and lastly, the observer error. Again urine testing is of

no value in detecting hypoglycaemia. Urine sugar test for ketones is an important learning skill for all insulin-dependent diabetics, as the presence of significant ketonuria is a warning sign of potentially serious metabolic derangement and for seeking urgent medical advice.

This is ample data to prove that chances of end-organ involvement in diabetes are directly related to the degree of metabolic control achieved in a diabetic. Good records are important even if tests are negative and/or there is no regular frequency. It greatly assists the physician to guide regarding therapeutic goals to achieve and make necessary adjustment in the management schedule.

Periodic assessment of parameters as outlined reinforces confidence in diabetic care and ensures adherence to management plans.

--- M.M.S.A.