

# WORKSHOP I – TYPE 1 DIABETES CONSENSUS GUIDELINES FOR BASIC MINIMUM CARE

## CRITERIA FOR DIAGNOSIS

### a) Clinical Suspicion :

Age below 30 years

Presence of polyuria, polydipsia, polyphagia and bedwetting in young children

Unexplained weight loss

Failure to thrive

Altered sensorium with or without the presence of dehydration, deep breathing, pain abdomen and vomiting.

### b) Confirmatory Biochemical Tests :

Urine – presence of glucose and ketone bodies.

Capillary blood glucose [random sample] if  $\geq 200$  mg/dl ( $\geq 11.1$  mmol/l) plus presence of Classical symptoms – transfer the patient to a hospital.

### Note :

For estimations of blood glucose in a critically ill child, blood should be collected before starting the intravenous fluid line.

If symptoms are less/few, repeat the tests mentioned above and follow the WHO/ADA Criteria for diagnosis.

## ADA CRITERIA FOR DIAGNOSIS :

Random blood glucose  $\geq 200$  mg / dl ( $\geq 11.1$  mmol/l) plus classic symptoms

Or

FPG  $\geq 126$  mg/dl ( $\geq 7.0$  mmol/l)

Or

2- hour PG  $\geq 200$  mg/dl ( $\geq 11.1$  mmol/l) on OGTT

**Note :** OGTT is no longer routinely recommended, is not needed to diagnose type 1 diabetes and is contraindicated in infants and young children.

## TARGETS OF GLYCEMIC CONTROL

The primary target is to achieve euglycaemia to prevent occurrence of acute and chronic complications, as well as prevent the occurrence of hypoglycaemia. The targets for good glycemic control are :

Pre-meal Plasma Glucose: 80-140 mg/dl

Post-meal Plasma Glucose: 80-140 mg/dl

*It is recommended that only specialists treat infants and young children.*

## MONITORING GLYCEMIC CONTROL

The minimal recommendation for plasma glucose monitoring by Home Monitoring of Blood Glucose (HMBG) is at least once every month, to be counter checked at least once every month, in laboratory. If the patient is willing, more often monitoring should be encouraged to check blood glucose at different times of the day e.g., 4 tests per day conducted twice a week.

Estimation of urine glucose as frequently as possible at different times of the day, particularly two hour post meal by Diastix<sup>®</sup> or Benedict's reagent is recommended.

Glycated haemoglobin [HbA<sub>1c</sub>] should be done once every three months.

## MONITORING OTHER PARAMETERS

Yearly monitoring of the patient for the following parameters is recommended after five years of diagnosis.

Lipid profile

Microalbuminuria

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Serum Creatinine  
Fundus examination

**Note :** In addition all infections, including tuberculous should be eliminated by proper physical examination and confirmatory diagnostic tests as and when required.

### **GROWTH AND PUBERTY :**

Growth can be assessed by measuring the weight at every visit and height every 3-6 months.

If growth is delayed, refer the patient to a specialist for further workup.

Observe for pubertal and psychological changes and if required refer to a specialist.

### **BASIC MINIMUM DIABETES EDUCATION**

The patient, parent relatives, friends and class teachers should be exposed to the diabetes education programme. The diabetes education programme should include.

Basics of the illness (type 1 diabetes mellitus)

Its differences from type 2 diabetes mellitus

Advice on diet and exercise

Advice on methods of monitoring

Need for daily insulin injection lifelong, for survival

Details on self injection techniques and storage of insulin

Recognition of hypoglycaemia and its management

Need for tight control to prevent the occurrence of acute and chronic complications

Sick day rules

### **SICK DAY MANAGEMENT**

When a patient is ill, changes in diet, medications and monitoring may be necessary to maintain stability. The following guidelines are recommended during periods of illness.

Do not stop insulin

Do not stop meals; if patient cannot eat give liquid meals

Maintain hydration

Monitor blood glucose and urinary ketones more frequently

Use short acting insulin in more frequent doses

Refer the patient to a hospital or a specialist if the general condition does not improves.

### **INSULIN THERAPY:**

#### **a) Initiating insulin therapy in uncomplicated ambulatory type I patients :**

Patients should preferably be admitted to hospital and initiated with a short acting insulin [ 0.5 IU/kg body weight per day] divided over 3 doses/day given pre-meal and subcutaneously.

If hospital admission is not possible close continuous monitoring of the patient is necessary.

After adequate control is obtained with the above mentioned treatment, a minimum of twice daily regimen with a short and intermediate acting insulin may be given as per the individual patents requirement.

#### **b) Initiating insulin therapy in ill patients with altered sensorium**

Patient should be immediately rehydrated with intravenous normal saline and referred to the nearest hospital.

The management of DKA should be done in a hospital under an intensive care setting.

### **DIETARY MANAGEMENT**

The diet should provide adequate calories, appropriate for age and weight, with special allowance for growth. The diet should contain:

Carbohydrates 60-65% of total calorie intake

Proteins 1 gm/kg body weight

Fats in appropriate amounts. The amount of saturated fats should be less than 10% of the

calorie content of the food. Excess fat should be avoided.

The recommended food should follow the patients' traditional food pattern.

The patients should be encouraged to have 3 appropriate sized meals and 3 snacks to provide adequate calories in his/her diet.

No separate cooking for the patient should be encouraged and patients should avoid sweets and sugars. One seasonal fruit per day is permissible, but its caloric content must be included in the patient's overall daily caloric intake.

### **EXERCISE**

Patients should be encouraged to do regular exercise and play outdoor games.

### Special care during exercise

patient advised to carry an identity (ID) card,

patient advised to avoid unaccustomed heavy exercise

patient advised to eat a small snack before, during or after exercise

Exercise is not recommended if patients are

Ill

blood sugar > 300 mg/dl, or if,

ketone bodies are present in the urine.