Diabetes Mellitus

Diabetes mellitus is a syndrome of altered metabolism of carbohydrates, proteins, and lipids

resulting in hyperglycemia.

It is a relatively common medical problem, affecting 1–2% of western populations. It is estimated that around 250 million people currently have diabetes, 80% of whom live in developing countries.

Types of DM:

Diabetes Type I (IDDM) Type H (NIDDM)

Incidence 15% 85%

Pathophysiology Failure to secret insulin because of Insulin resistance and

autoimmune destruction of pancreatic inadequate insulin

B-cells (may be induced by viral secretion by pancreas to

infection — Coxachie, Mumps, Rubella) compensate

Onset Juvenile (< 30 years) Adult (< 40 years)

Body type V Thin Obese

Presentations Diabetic ketoacidosis Hyperglycemic

associated with (DKA) Hyperosmolar nonketotic

hyperglycemia state (HHNK)

Treatment Insulin Diet, exercise, oral

agents, or insulin

Genetic Weak Strong

predisposition

HLA association HLA — DR3 & DR4 No

Clinical features:

Symptoms of 3 P’s: Polyuria, Polydipsia, and Polyphagia, with rapid or unexplained weight

loss, blurred vision, fatigue, or recurrent infections (e.g., boils, foot ulcers, candidiasis).

Diagnosis: one of the following:

1- One random plasma glucose Z 200 mg/dL with 3 P’s symptoms.

2- Fasting plasma glucose Z 126 mg/dL on two separate occasions.

3- Two~hour postprandial glucose 2 200 mg/dL after 75-g oral glucose tolerance test (on

two separate occasions).

4- Glycosylated hemoglobin (HbAlc) > 6.5%.

Treatment

I. Type l diabetics treated with insulin as follows:

- Total daily insulin dose = 0.5 U/kg with modiﬁcation according to lifestyle.

- Divide total daily dose into two doses (2/3 at pre-breakfast and l/3 at pre-dinner).

- Each dose is composed of (2/3 NPH insulin and 1/3 regular insulin).

Long-acting insulin: examples like glargine (Lantus), Detemir, and NPH.

Short-acting insulin: examples like Novorapid and regular insulin.

II. Type 2 diabetics treated with diet control, exercise, weight loss, and oral agent: