



جامعة المستقبل
قسم تقنيات البصريات

مشاكل العين بالامراض الباطنية و العصبية

Diabetes Mellitus and ocular manifestation of diabetes

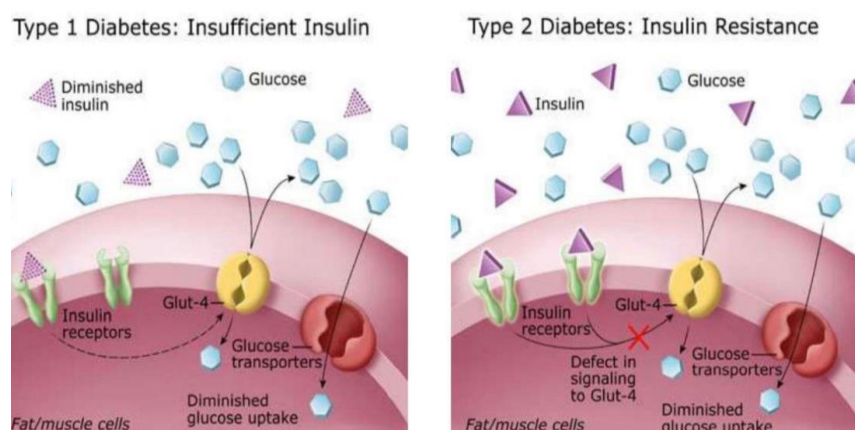
L6

د. نيلوفر علي عوض

Diabetes Mellitus

Definition

- Diabetes mellitus (DM) is a group of diseases characterized by high levels of blood glucose resulting from defects in insulin production, insulin action, or both .
- Characterized by chronic hyperglycemia .
- The effects of diabetes mellitus include long–term damage, dysfunction and failure of various organs .
- Often symptoms are not severe, or may be absent ,and consequently hyperglycaemia sufficient to cause pathological and functional changes may be present for a long time before the diagnosis is made.



Types

- Type 1 Diabetes Mellitus
- Type 2 Diabetes Mellitus
- Gestational Diabetes
- Other types:
 - ❖ LADA (Latent Autoimmune Diabetes in Adults)
 - ❖ MODY (maturity-onset diabetes of Youth)
 - ❖ Secondary Diabetes Mellitus

Types

Type 1 DM

- Onset in childhood although disease onset can occur at any age ,it may account for 5% to 10% of all diagnosed cases of diabetes
- Risk factors may include autoimmune,genetic, and environmental factors.
- Insulin dependent from an early age
- Not related to obesity
- Defined as insulin deficiency

Type 2 DM

- Older age, obesity, family history, gestational diabetes, physical inactivity, and race
- Defined as insulin resistance, cells do not use insulin properly.

- About 90% to 95% of all cases of diabetes.
- Type 2 diabetes is increasingly being diagnosed in children and adolescents.

- **Gestational Diabetes**

- Diagnosed in some women during pregnancy .
- It is more common among obese women and women with a family history of diabetes .
- After pregnancy, 5% to 10% of women with gestational diabetes are found to have type 2 diabetes.
- Women who have had gestational diabetes have a 20% to 50% chance of developing diabetes in the next 5-10 years.

- **Secondary Diabetes Mellitus**

- Acromegaly
- Cushing syndrome
- Thyrotoxicosis
- Chronic pancreatitis
- Cancer
- Drugs : Antipsychotics ,Beta-blockers , Calcium Channel Blockers, Corticosteroids , Naicin , Phenothiazines ,Thiazide Diuretics.

- Symptoms

- Polyuria
- polyphagia
- polydipsia
- Decreased wound healing

Type 1 diabetics are generally thinner than Type 2

Type 2 diabetics are less likely to present with polyphagia

- Diagnosis

- Two fasting blood glucose measurements greater than 125 mg/dL
- Single glucose level above 200 mg/dL with symptoms.
- Hemoglobin A1C >6.5%, is the best test to follow response to therapy over the last several months.

- Treatment

- Diet, Exercise, and Weight Loss
- Oral Hypoglycemic Medication
- Insulin for Type 1
- Insulin is added for Type 2 if the patient is not controlled with oral hypoglycemic agents.

Ocular Manifestation of Diabetes

• Common

- Retinopathy.
- Iridopathy (minor iris transillumination defects).
- Unstable refraction.

• Uncommon

- Recurrent styes.
- Xanthelasma.
- Accelerated senile cataract.
- glaucoma.
- Ocular motor nerve palsies.
- Reduced corneal sensitivity.

• Rare

Papillopathy, Wolfram syndrome (progressive optic atrophy and multiple neurological and systemic abnormalities), (cataract, rhino-orbital mucormycosis



Xanthelasma

Ocular motor nerve palsy



- Risk factors of ophthalmic complications of diabetes

- Duration of diabetes
- Poor control of diabetes
- Pregnancy
- Hypertension,
- Nephropathy
- Other risk factors include hyperlipidaemia ,smoking,cataract surgery, obesity and anaemia.

- Treatment

General

- Yearly eye exam to check for proliferative retinopathy
- Patient education treatment schedules in order to optimize visual outcomes.
- Diabetic control should be optimized.
- Risk factors, hypertension (type 2 diabetes) and hyperlipidaemia should be controlled
- Smoking should be discontinued,
- modifiable factors such as anemia and renal failure