



Diabetes Mellitus

General Management Concept for Extern

Definition of DM

- FPG \geq 126 mg/dl**
- RPG \geq 200 mg/dl + Symptoms**
- 75 gm- OGTT \geq 200 mg/dl**



Definition of DM

- DM Symptoms (**3P** + W + N)
 - Polyphagia
 - Polydipsia
 - Polyuria
 - Weight loss
 - Nocturia



Terminology

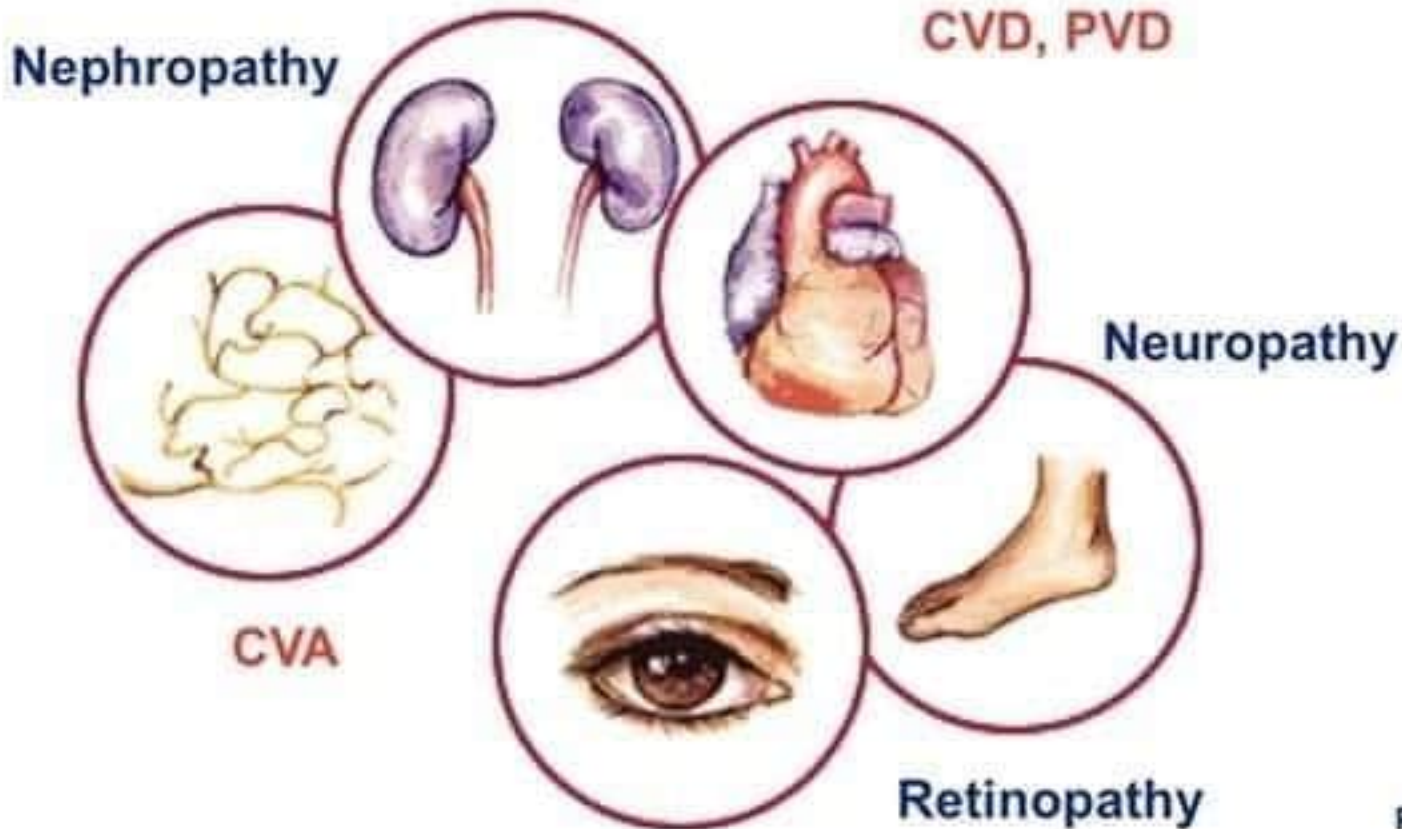
- FPG normal level < 100 mg/dl
- OGTT normal level < 140 mg/dl
- FPG 100-125 mg/dl
: **impaired fasting glucose (IFG)**
- OGTT 140-199 mg/dl
: **impaired glucose tolerance (IGT)**
- FPG ≥ 126 mg/dl
: **Diabetes Mellitus (DM)**

DM : Come with price!

- Important CVD Risk
- Important Atherosclerotic Risk
- Long-term, chronic treatment
- Macrovascular complication
- Microvascular complication



DM : Complication



Treatment Principles



Lowering Plasma Glucose

- Lifestyle Modification (LSM)
- Pharmacological treatment
- Good screening and F/U complication



Pharmacological treatment

- Oral hypoglycemic agents
 - Increase insulin secretion
 - Decrease insulin resistant
 - Decrease glucose absorption
- Insulin treatment



Pharmacological treatment

Metformin

- Dose range 500-3,000 mg/day
- Decrease insulin resistance
- S/E : Anorexia, weight loss, GI upset
- Caution in CKD, ESRD



Pharmacological treatment

Glipizide

- Dose range 5-20 mg/day
- Increase insulin secretion
- S/E : weight gain, hypoglycemia
- Can be used in CKD



Pharmacological treatment

Pioglitazone

- Dose range 15-45 mg/day
- Increase insulin secretion
- S/E : weight gain, edema
- Can be used in CKD
- C/I in heart failure



Pharmacological treatment

Arcarbose

- Dose range 25-75 mg tid pc
- Decrease glucose absorption
- S/E : Bloating, Increased bowel gas
- Can be used in CKD



Pharmacological treatment

Summary Important Features

- Weight loss : Metformin, GLP-1 agonist
- Weight gain : Sulfonylurea, TZD
- Hypoglycemia : Sulfonylurea, Insulin
- CKD caution : Metformin
- CKD choice : Sulfonylurea, Insulin, TZD
- Do not use in CHF : TZD



Pharmacological treatment

- Contraindication to Oral med**
 - Serum Creatinine > 2**
 - Decompensated cirrhosis**
 - Sepsis, Critically ill**
 - Pregnancy, Lactation**

Pharmacological treatment

- Insulin treatment
 - Diabetic emergency : DKA,HHS
 - DM type I
 - DM type II
 - Contraindicated to oral med
 - Failure of oral medication



Good screening and F/U complication

- Follow up glucose control**
- Follow up co-morbidities**
 - Atherosclerotic risk : HT, DLP, Smoking
- Follow up complication**
 - Macrovascular complication
 - Microvascular complication



Follow up complication

Macrovascular complication

- Keep BP < 140/90 mmHg
- Keep TG < 150 HDL > 50 LDL < 100
- Lipid profile at least q 1 year, stop smoking

Microvascular complication

- Retinopathy : eye exam q 1 year
- Nephropathy : Cr, Microalbumin q 1 year
- Neuropathy : Regular foot exam, Monofilament

