**Type 3c Diabetes mellitus**:

**Introduction:**

Type 3c diabetes mellitus has been designed as secondary diabetes- “ Pancreatogenic diabetes”.

This refers to diabetes due to impairment in pancreatic endocrine function related to pancreatic exocrine damage due to acute , relapsing, and chronic pancreatitis( of any etiology), cystic fibrosis, hemochromatosis, pancreatic cancer, and pancreatectomy, and as well rare causes such as neonatal diabetes due to pancreatic agenesis.

In type 1 and type 2 diabetes mellitus, deficient insulin production leads to hyperglycemia, but the digestion of food is unaffected.

On the other hand, in type 3c diabetes mellitus, digestion of food also gets affected.

**Causes of Type3c Diabetes Mellitus:**

* Most commonly identified cause of type 3c diabetes is Chronic pancreatitis
* According to a single-center review, causes of type 3c diabetes were recorded as: "chronic pancreatitis" (79%),
* Pancreatic ductal adenocarcinoma" (8%),
* Hemochromatosis (7%),
* Cystic fibrosis (4%),
* Previous pancreatectomy (2%).

**Clinical presentation:**

* Diabetes type 3c is a complex situation in which this is very difficult to diagnose the problem.
* The major symptoms include
* Diarrhea
* Abdominal bloating
* Eating issues
* Bloating and abdominal pain
* Nausea
* General fatigue
* These symptoms are usually accompanied by several conditions like patients with a history of pancreatic disorders, an instance of weight loss and severe pain.

**Diagnosis:**

Diagnosis of diabetes type 3c is too complicated, and that’s why it renders it undiagnosed and maltreated in most cases.

In patients with chronic pancreatitis, fasting glucose and HbA1c, with impairment in further evaluated by a standard 75g oral glucose tolerance test(OGTT).

Impairment in fasting glucose(100-125mg/dl) or HbA1c(5.7-6.4%) constitutes increased risk for diabetes, a condition known as prediabetes, while a fasting glucose>126mg/dl or HbA1c >6.5% may already indicate the presence of diabetes.

In the absence of unequivocal hyperglycemia (random glucose>200mg/dl), Such results should be confirmed by repeat testing unless both support the diagnosis.

**Diagnostic Criteria for T3cDm:**

Major criteria (all must be fulfilled):

Presence of exocrine pancreatic insufficiency (According to monoclonal fecal elastase 1 or direct function tests).

Pathological pancreatic imaging (by endoscopic ultrasound, MRI or CT).

Absence of T1DM-associated autoimmune markers.

Minor Criteria:

Impaired beta-cell function (e.g. as measured by HOMA-B, C-peptide/glucose ratio).

No excessive insulin resistance (e.g. as measured by HOMA-IR).

Impaired incretin (e.g. GIP) or pancreatic polypeptide secretion.

Low serum levels of lipid soluble vitamins (A, D , E, or K).

**Management of Type3c Diabetes:**

Control of hyperglycemia to achieve and maintain the HbA1c <7% remains the primary target for the management of T3cDM as with T1DM and T2DM in order to minimize the risk of micro- and possibility macrovascular complications.

**Multi-dimensional approach:**

1) Lifestyle Modifications

2) Anti-Hyperglycaemic Agents

3) Total Pancreatectomy with Islet Auto transplantation (TPIAT)

**Total Pancreatectomy with Islet Auto transplantation (TPIAT):**

* TPIAT is considered as definitive treatment of recurrent acute or chronic pancreatitis for the primary Indication of providing pain relief, with hoped for withdrawal of narcotics and amelioration from recurrent hospitalizations to treat pain exacerbations
* The objective of the Islet autotransplant is prevention or amelioration of surgical diabetes, and while the chances of achieving good glycemic control Increase with exclusion of pre-existing T3cDM, this procedure does not prevent nor is a treatment for T3CDM.

**Conclusion:**

* Type 3c DM is prevalent nowadays due to a lack of diagnostic sense in the people as it Is always confused with Diabetes type 1 and type 2
* Type 3c DM is majorly caused by chronic pancreatitis, adenocarcinoma, hemochromatosis, or pancreatic removal
* Patients with these problems should be identified in their medical histories and distinguished from other diabetic patients.