

## TYPE 3C DIABETES MELLITUS

### Abstract

Type 3C diabetes which is a secondary form of diabetes. It includes that are brought on by an impairment in pancreatic endocrine function that are brought on by exocrine damage brought on by acute, relapsing, and chronic pancreatitis (of any aetiology), cystic fibrosis, hemochromatosis, pancreatic cancer, pancreatotomy. Type 3c diabetes is too difficult to diagnose, it frequently goes misdiagnosed and receives poor care. The main mode to reduce the risk of micro- and potential macrovascular consequences is by the control of hyperglycemia and to attain & maintain the HbA1c 7%. TPIAT is regarded as the only effective treatment for recurrent acute or chronic pancreatitis, with the primary goal of relieving pain and the reduction of narcotic use and frequent hospitalisations for pain exacerbations. Type 3c DM is becoming more common nowadays because individuals frequently confuse it with type 1 and type 2 diabetes due to a lack of diagnostic expertise.

### Authors

#### **Dr. Hemadharshini.S**

Resident  
Biochemistry  
SRM Medical College Hospital and  
Research centre  
Kattankulathur, Tamil Nadu, India.

#### **Dr. Vinodhini.V.M**

HOD and Professor  
Biochemistry  
SRM Medical College Hospital and  
Research centre  
Kattankulathur, Tamil Nadu, India.

#### **Dr. Renuka.P**

Professor  
Biochemistry  
SRM Medical College Hospital and  
Research centre  
Kattankulathur, Tamil Nadu, India.

## I. INTRODUCTION

The term "pancreatogenic diabetes" refers to type 3c diabetes mellitus, which is a secondary form of diabetes.

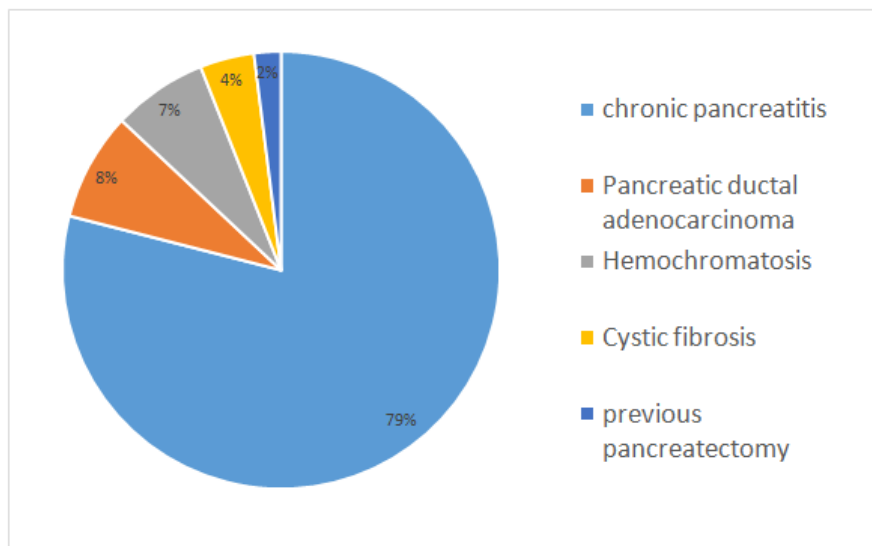
This includes diabetes that are brought on by an impairment in pancreatic endocrine function that are brought on by exocrine damage brought on by acute, relapsing, and chronic pancreatitis (of any aetiology), cystic fibrosis, hemochromatosis, pancreatic cancer, pancreatectomy, as well as less frequent causes like neonatal diabetes restored on by pancreatic agenesis.

Deficient insulin synthesis causes hyperglycemia in both type 1 and type 2 diabetes mellitus, but food digestion is unaffected.

On the other hand, food digestion is also impacted by type 3c diabetes mellitus.

### 1. Causes of Type3c Diabetes Mellitus:

- Chronic pancreatitis is the most often reported cause of type 3c diabetes, accounting for 79% of cases, according to a single-center assessment.
- Pancreatic ductal adenocarcinoma" (8%),
- Hemochromatosis (7%),
- Cystic fibrosis (4%),
- Previous pancreatectomy (2%).



### 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.

## II. DIAGNOSIS

Because diabetes type 3c is too difficult to diagnose, it frequently goes misdiagnosed and receives poor care.

A routine 75g oral glucose tolerance test (OGTT) is used to further assess the impairment in fasting glucose and HbA1c in patients with chronic pancreatitis.

Prediabetes is a condition marked by impaired fasting glucose (100-125 mg/dl) or HbA1c (5.7–6.4%), while fasting glucose >126 mg/dl or HbA1c >6.5% may already be an indicator of diabetes.

Such results should be validated by repeat testing, barring unmistakable hyperglycemia (random glucose > 200 mg/dl), unless both results support the diagnosis.

### 1. Diagnostic Criteria for T3cDm

- **Major Criteria (all must be fulfilled):** Exocrine pancreatic insufficiency is present, as determined by direct function or monoclonal faecal elastase 1 tests.

Imaging of the pathological pancreas using endoscopic ultrasonography, MRI, or CT. absence of immunological markers linked to T1DM.

2. **Minor Criteria:** Impaired beta-cell activity, as determined by tests like the HOMA-B and the C-peptide/glucose ratio.

No extreme insulin resistance, as determined by tests like the HOMA-IR.

Impaired secretion of pancreatic polypeptides or incretins (such as GIP).

Low amounts of the lipid-soluble vitamins A, D, E, or K in the serum.

## III. MANAGEMENT OF TYPE3C DIABETES

In order to reduce the risk of micro- and potential macrovascular consequences, control of hyperglycemia to attain and maintain the HbA1c 7% remains the major goal for the therapy of T3cDM.

### 1. Multi-Dimensional Approach

- Lifestyle Modifications
- Anti-Hyperglycaemic Agents
- Total Pancreatectomy with Islet Auto transplantation (TPIAT)

## 2. Total Pancreatectomy with Islet Auto Transplantation (TPIAT)

- TPIAT is regarded as the only effective treatment for recurrent acute or chronic pancreatitis, with the primary goal of relieving pain and the reduction of narcotic use and frequent hospitalisations for pain exacerbations.
- While excluding pre-existing T3cDM increases the likelihood of attaining good glycemic control, the goal of the Islet autotransplant is to avoid or ameliorate surgical diabetes. However, this method neither prevents nor treats T3CDM.

## IV. CONCLUSION

1. Type 3c DM is becoming more common nowadays because individuals frequently confuse it with type 1 and type 2 diabetes due to a lack of diagnostic expertise.

The main causes of type 3c diabetes mellitus (DM) include chronic pancreatitis, adenocarcinoma, hemochromatosis, or pancreatic resection.

2. From their medical histories, people with these problems should be distinguished from other diabetic patients.