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A Case Report

TENELIGLIPTIN INDUCED PERSISTENT DIARRHEASheba Susan Chacko*¹, Josna James¹, Nigel V Sailesh², Jency Maria Koshy³¹Clinical Pharmacist, Department of General Medicine, Believers church Medical College Hospital, Thiruvalla, Kerala²Junior Resident, Department of General Medicine, Believers church Medical College Hospital, Thiruvalla, Kerala³Professor and Unit Head of General Medicine, Believers church Medical College Hospital, Thiruvalla, Kerala**Article Received:** September 2020 **Accepted:** September 2020 **Published:** October 2020**Abstract:**

Teneligliptin is an Oral hypoglycemic agent (OHA) widely used for the treatment of Type 2 Diabetes Mellitus in adults. Rare side effects such as hypoglycemia, diarrhea, loss of appetite and abdominal distress have been noted with the usage of Teneligliptin.

Here we report the case of a 65-year-old man diagnosed with Type 2 Diabetes Mellitus who developed profuse diarrhea and significant weight loss following intake of Teneligliptin.

Key Words: *Teneligliptin, Type2 Diabetes Mellitus, Diarrhea*

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INTRODUCTION:

Teneligliptin is an oral dipeptidyl peptidase 4(DPP4) inhibitor indicated for the management of Type 2 Diabetes mellitus in adults. The rare side effects of Teneligliptin are hypoglycemia, abdominal distress, loss of appetite, constipation, diarrhea, functional gastric bloating and headache (1). Here we present a case of Teneligliptin induced diarrhea and significant weight loss.

CASE REPORT:

A 65-year-old Doctor presented to the medicine OPD of a tertiary care centre with episodes of loose stools since 2 weeks. Stools were watery in consistency, voluminous and had 5 episodes per day. He had no history of fever, abdominal pain, blood or mucus in stool or any history of food intake from outside. He lost 5kg over a period of 2 weeks. He had already received oral antibiotics (Ciprofloxacin+Tinidazole), Probiotics and Racecadrotil, prior to this consultation however with no relief of symptoms. He was a known case of Type 2 Diabetes mellitus since 19 years and was on oral hypoglycemic agents(OHA)and Insulin with reasonable glycemic control.

His general physical examination and systemic examination were unremarkable. He was given a course of Rifaxamin for 5 days and was advised to continue Racecadrotil for 5 more days. His stool analyses, culture and hematological parameters were normal. Considering his age the treating physician made a plan to do a colonoscopy, if his symptoms were to persist.

He reported back to the outpatient department with no relief of symptoms. On reviewing the treatment history, it was noted that he was on Tab. Metformin with Glimpiride twice daily, Tab.Linagliptin once daily and Inj.Glargine once daily. However, one month prior to developing diarrhea, on doctor's advice he had switched over to Teneligliptin from Linagliptin. Considering a remote possibility of drug induced diarrhea, it was decided to stop teneligliptin and to observe.

His loose stools gradually decreased and subsided with in a duration of 10 days. On following up for the next 3 months, he continued to remain asymptomatic. Currently he is on Metformin twice daily, Glimpiride twice daily and Inj. Glargine once daily with good glycemic control.

DISCUSSION:

Teneligliptin belongs to the third generation DPP4 inhibitor used for treatment of Type 2 Diabetes

mellitus. DPP4 results in increased activity of glucagon like peptide-1(GLP-1) and glucose dependent insulinotropic peptide (GIP),the incretin hormones.Through the action of GLP-1 & GIP,DPP4 inhibitors improve preprandial and postprandial glucose by enhancing insulin secretion and reducing postprandial concentrations of glucagon (2). DPP4 inhibitors are associated with enhanced beta cell functions, low risk of hypoglycemia, weight gain, and good tolerability profile (3).

Teneligliptin is administered as 20mg tablets once daily prior to meals. It can be used without dose adjustment even in patients with renal impairment, including those on dialysis. It has a unique pharmacokinetic profile involving elimination by multiple pathways, including hepatic metabolism by cytochrome P450 3A4 and flavin containing monooxygenase 3 and hence it is excreted by kidney in an unchanged form (4).

The side effects of teneligliptin given in various literatures are hypoglycemia, loss of appetite, constipation, diarrhea, functional gastric bloating, headache and abdominal distress. In a clinical study conducted in India, it was found that approximately 2.5% of patient receiving Teneligliptin treatment develop loose stools (5). Mechanism of Teneligliptin induced Diarrhea remain unclear.

Drug history is a vital part in the evaluation of patients with diarrhea. The most frequently involved drugs causing diarrhea are antimicrobials, laxatives, OHAs, magnesium containing antacids, lactose or sorbitol containing products. Non-steroidal anti-inflammatory drugs, prostaglandins, antineoplastic, antiarrhythmic and cholinergic agents also are known to cause diarrhea. Hence drug history is a crucial while evaluating patient with diarrhea.

CONCLUSION:

Clinicians should be aware of Teneligliptin as an inciting cause for loose stools. While evaluating the cause for loose stools, drug history of patient is vital which would avert physician from doing various invasive and expensive investigations.

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