Case Reports and Reviews

Case Report

A 54 Years Old Female Patient with Acute Pancreatitis: A Case Report

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Abstract

We report a rare case of acute pancreatitis induced by the use of sitagliptin. Our patient was a 54-year-old female who had type 2 diabetes mellitus poorly controlled with Gliclazide. Her GP added sitagliptin for more control. After five months of the use of sitagliptin, she developed acute abdominal pain with nausea. Computed tomography (CT) with contrast showed acute pancreatitis. The patient was admitted to the hospital for monitoring. Firstly, we discontinued sitagliptin. Intravenous broad-spectrum antibiotics with fluid were the main treatment. After five days, we discharged the patient with no abdominal pain or any complaints. We prescribed Gliclazide 120 mg a day with Metformin 1000 mg a day for diabetes control. Follow-up after 3 weeks showed a good recovery.

Introduction

As compared to biliary tract obstruction and alcohol, drugs are rare cause of acute pancreatitis (AP), with an estimated incidence of 0.1-2% [1].

Sitagliptin, a dipeptidyl peptidase IV (DPP-IV) inhibitor, enhances control of type 2 diabetes by prolonging the duration of active incretin hormones such as glucagon-like peptide 1 (GLP-1) in the bloodstream [2,3].

Pancreatitis is a known, although rare, side effect of DPP-IV inhibitors. DPP-IV-induced pancreatitis has previously been reported anywhere between several weeks to 8 months after initiating the medication [4].

Here, we report a rare case of sitagliptin induced acute pancreatitis. We documented how it started, how it was diagnosed, and how it was treated.

Case presentation

A 54-year-old female patient presented to the emergency department after two hours of severe abdominal pain. She had experienced mild recurrent abdominal pain in the past month, but this time was unbearable. Past medical history was remarkable for hypertension controlled with ACE inhibitor and type 2 diabetes mellitus treated with Gliclazide 60 mg twice a day and sitagliptin 100 a day which was added five months ago by her GP for more control. She underwent cholecystectomy 14 years ago. On presentation, she had a mild fever of 38.2 Co, the pain was constant in the epigastric region and radiated to the back mildly relieved by leaning forward. Her vital signs were as follows: blood pressure was 110/50 mmHg, her pulse was 84/min, and her respiratory rate was 24/min. Physical examination showed tenderness in the epigastria. Laboratory investigations revealed leukocytosis 18 X 105/L with 88% neutrophils. Glucose was 109 mg/dl. Serum amylase was elevated to 600 IU/L; serum lipase was 480 IU/L. Other laboratory tests are shown in Table 1. Abdominal ultrasound showed mild hepatomegaly and an enlarged pancreas with edema. Computed Tomography (CT) scan with contrast showed pancreatitis (Figure 1). The diagnosis was acute pancreatitis induced by sitagliptin. Firstly, we stopped sitagliptin and other diabetic drugs and we replaced it with subcutaneous insulin for glucose control.

We admitted the patient for more monitoring. A central venous line was inserted for fluid resuscitation and nasogastric for bowel rest. In addition, broad-spectrum antibiotics were started intravenously. Daily laboratory tests for monitoring showed a good improvement. We discharged our patient after five days with Gliclazide 120 mg a day with Metformin 1000 mg a day. Follow-up after three weeks showed a good recovery with no complaints.

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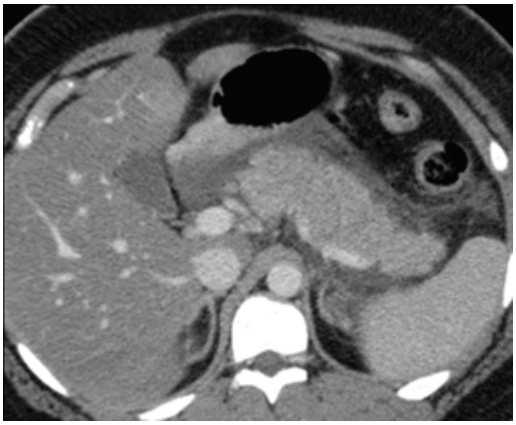

***Figure 1**. Computed tomography showing signs of acute pancreatitis*

Discussion

Acute pancreatitis is considered an emergent state which needs fast diagnosis and treatment. In the literature, there are many causes that are responsible for pancreatitis.

Gall stones and alcohol being the most common. Toxins (alcohol and organophosphate insecticides), drugs (steroids, thiazides, beta-blockers, protease inhibitors, and azathioprine), metabolic (hypercalcemia, obesity, hypothyroidism and hypertriglyceridemia), structural damage to pancreatic duct post-ERCP and infections (mumps) account for the rest [5].

The dipeptidyl-peptidase IV inhibitors (DPP-4i) group was introduced in 2006 for control serum glucose in patients with type 2 diabetes mellitus.

However, a potential association between DPP-4i treatment and pancreatitis and pancreatic cancer was suggested in 2009, based on studies in rats carrying the human islet amyloid polypeptide transgene treated with S, in which increased pancreatic ductal turnover, ductal metaplasia, and isolated pancreatitis were observed. Moreover, in September 2009, The United States Food and Drug Administration (FDA) Adverse Event Reporting System has reported cases of acute pancreatitis that were likely provoked by DPP-4i use, including necrotizing or hemorrhagic pancreatitis, which can be life threatening [6,7].

The mechanism by which GLP-1 therapies may cause pancreatitis has been poorly characterized to date. Small but statistically significant increases in levels of amylase and, to a greater extent, lipase have been reported in observational studies of patients on DPP-IV inhibitors or exenatide [8].

One of the cross-sectional studies analyzed spontaneous adverse events among users of sitagliptin or exenatide observed the 6-fold increased risk of acute pancreatitis compared to other oral hypoglycemic drugs. Also, they reported an increased risk of carcinoma of the pancreas in their study population [9].

In this case report, we had a female patient with 13 years of hypertension controlled with lisinopril, and diabetes mellitus type 2. This patient had longstanding diabetes partially controlled with one drug (Gliclazide). Recently, she visited her GP and added sitagliptin for more control. This agent caused acute pancreatitis. Conservative management was the choice to treat management. Even with the use of lisinopril, her symptoms were resolved gradually after stopping sitagliptin and initiation of intravenous antibiotics and fluids.

Conclusion

Sitagliptin-induced pancreatitis is a rare condition, which needs a full workup, immediate stopping of the causative drug, and addition to the hospital for monitoring..

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