

82-Year-Old with Weight Loss and New-Onset Diabetes

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ABSTRACT

A case of new-onset diabetes with sudden weight loss in an 82-year-old male, a clinical picture concerning for malignancy. After work-up that included labs, imaging and MRCP/ERCP, the diagnosis of chronic pancreatitis was made.

Keywords

Chronic pancreatitis, Weight loss, Diabetes.

Introduction

We report a case of asymptomatic chronic pancreatitis presenting as weight loss and new-onset diabetes in an 82-year-old gentleman.

Case Presentation

Frank is a previously healthy 82-year-old gentleman with atrial fibrillation, OSA, and hypothyroidism. He smoked previously (10 Pack-Years, quit in 1975), no history of heavy alcohol use. He was dealing with a significant life stressor, with his wife being confined to a nursing home. He was a very active person, walking daily and golfing. BMI was 26.

In August, 2020 visit with PCP, he did note weight loss of 2kg that was unintentional. It was thought that this might be related to his significant life stressors at that moment.

His next visit with PCP was in July 2021, and Frank had continued to lose weight. He was now 8kg lighter than his baseline with no intention to lose weight, no though he did say he was exercising more and not eating out anymore, no change in appetite. BMI was now 23.5. Of note, his Hemoglobin A1C had risen to 6.7 whereas it had been in the normal range (5-5.5) in all previous measurements.

A few months later, November 2021, he shared that he was feeling horrible and was very worried about his health. He was down another 5kg since July, was urinating frequently and felt very

thirsty. He reported low energy. His A1C was now 10.2 and at one point he was sent to the Emergency Room with a blood glucose of > 500.

CT scan of abdomen/pelvis was performed with clinical suspicion for malignancy given patient's age, weight loss. No evidence of malignancy was found and instead "features of chronic pancreatitis, with duct dilatation, parenchymal atrophy and coarse calcifications" were found.



Figure 1: CT scan of the abdomen/pelvis with contrast axial. Dilated main pancreatic duct, 1.2 cm (thicker arrow). Coarse calcifications in pancreatic parenchyma (thinner arrow).



Figure 2: ERCP A) Dilated pancreatic duct (arrow).

B) Pancreatic stone, 1.6 cm (arrow).

As work-up continued with the support of endocrinology, ERCP was performed and a large obstructing pancreatic ductal stone was found with dilated pancreatic duct and pancreatic atrophy. The stone was deemed too large to remove.

After treatment with diet modification and insulin, our patient's A1C lowered to 6-6.5 range in 2022 measurements. Frank admits that he continues to worry about his pancreas. Our plan is to have the patient co-managed by family medicine, a dietician and endocrinology going forward.

Discussion

This case is a surprising presentation of chronic pancreatitis (CPa), found by sudden onset of diabetes and without abdominal pain or other symptoms.

Chronic Pancreatitis

CPa is a progressive and irreversible disease characterized by persistent inflammation that is usually caused by changes to the structure of the pancreas including, fibrosis, atrophy, and calcification [1]. These changes can result in decreased endocrine and exocrine efficiency, which limit the production of specific enzymes and hormones, possibly resulting in malnutrition due to malabsorption, leading to the common symptom of abdominal pain seen in patients [1]. The two most common environmental risk factors include smoking and alcohol exposure, but both may be absent [2]. Alcoholic, idiopathic, acute pancreatitis, and genetic cases are the most common causes of CPa [3-6]. It is believed that alcohol sensitizes the pancreas to further injury and can promote disease progression, but does not directly result in CPa [6].

Various worldwide studies estimate the prevalence of CPa is between 13-52 per 100,000 population, with an incidence of 4-14 per 100,000 population [1-7]. Incidence rates of asymptomatic or painless chronic pancreatitis has been shown to be up to 20% of all patients [11,12].

Chronic Pancreatitis and Diabetes

As the cause of our patient's diabetes is now thought to be his chronic pancreatitis, this would be classified as Type 3c Diabetes Mellitus (T3cDM). The American Diabetes Association and World Health Organization define T3cDM as the dysfunction of pancreatic endocrine system as a result of chronic, recurrent, or acute pancreatitis, pancreatic malignancy, fibrosis of the pancreas, hemochromatosis, and from pancreatectomy [10].

Between 25-80% of patients with CPa will go on to develop diabetes mellitus (DM). The American Diabetes Association now categorizes DM caused by CPa as pancreatogenic DM, accounting for 80% of T3cDM cases [8]. The remaining 20% of T3cDM is caused by pancreatic malignancy, genetic cystic fibrosis, and hemochromatosis. External risk factors for T3cDM are smoking, history of partial pancreatectomy procedures, and people who have CPa [9].

Takeaway from this case

Imaging is important in the work-up of patients for whom the pancreas seems to be functioning poorly. While malignancy was a concern with our patient, given his age and clinical picture, chronic pancreatitis was found on imaging and is thought to be the cause of his weight loss and diabetes.

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