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Case Report
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Medium Dose Steroid Induced Hypertriglyceridemia with Pancreatitis

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Abstract

TD is a 35-year-old male who presented to the emergency department in April 2023 due to nonalcoholic acute pancreatitis. He was found to have hypertriglyceridemia, but otherwise work-up for pancreatitis was negative. Patient had history of only mildly elevated triglycerides, but had been started on oral steroids 4 days before onset of disease process. In this case report we look to discuss sudden onset hypertriglyceridemia along with causes and treatment.

Introduction

Hypertriglyceridemia is prevalent general population and is commonly associated with other lipid and metabolic derangements. Once hypertriglyceridemia is identified an evaluation for secondary causes should be initiated [1]. Hypertriglyceridemia should also be treated on an individual bases including lifestyle modification to try and prevent complications such as pancreatitis [2].

Case Presentation

TD is a 35-year-old male who presented to the emergency department in early April due to sudden onset severe abdominal pain. He has a past medical history as for prediabetes was at time of admission, he had a past medical history significant for prediabetes, seasonal allergies, reactive airway disease, spondylolisthesis with low back pain and spinal stenosis. He had seen his pain specialist approximately 1 week before presentation and was started on a steroid burst due to persistent spondylolisthesis pain.

In the emergency department the patient was found to have small soft mobile lymph nodes and abdominal pain in the right upper quadrant with a negative Murphy's sign. His admission blood work was notable for sodium of 119, creatinine 1.88, glucose 244, AST 55, ALT 45, lipase 474, A1C 10.6, magnesium 4.1, WBC 13.22 and Triglycerides 5,643 mg/dl. His admission sodium corrected to 121 after glucose correction. CT abdomen pelvis noted subtle fat stranding around the uncinate process and head of the pancreas which may represent early acute pancreatitis and hepatic steatosis with focal fatty sparing around the falciform ligament and within the inferior portion of the right lobe. He was admitted to the hospital for acute pancreatitis for which he received aggressive IV hydration and additional work-up was initiated.

Discussion

While steroid induced diabetes is well documented [3] and literature supports hyperlipidemia when the patient is on high-dose steroids [4-6] there remains limited evidence on the effect of oral steroids on triglycerides in the general population [7]. Reports of steroid-induced hypertriglyceridemia have been noted in patients with Systemic Lupus Erythematosus [8] and in patients with familial hypertriglyceridemia [3]. To date there are no case reports of steroid induced hypertriglyceridemia in a patient without other underlying risk factors.

Hypertriglyceridemia is a risk factor for non-alcoholic pancreatitis [1,2,5]. Traditionally this is seen in cases with triglyceride levels greater than 1000 mg/dl but can be seen in cases as low as 500 mg/dL. Due to this, one of the primary reasons to treat hypertriglyceridemia is to prevent pancreatitis with a goal is to reduce triglyceride levels to less than 500 mg/dL. While treatment of hyperlipidemia is known to reduce coronary events literature does not support this as an aim for triglycerides specifically.

It is important to note that hypertriglyceridemia is not typically isolated abnormal finding

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and is frequently associated with other abnormalities such as metabolic syndrome and obesity. Hypertriglyceridemia is typically found only on routine laboratory screening but this condition can have some physical exam findings that can be noted in severe hypertriglyceridemia. This case focuses on pancreatitis but other exam findings of hypertriglyceridemia include eruptive xanthomas and lipemia retinalis which were not noted in our patient [1,2].

Treatment is standardized with lifestyle modification and statin and fibrate therapy. In severe or life-threatening cases, insulin infusion and plasmapheresis may require insulin infusion and plasmapheresis if the triglyceride levels are not responding to standard pancreatitis measures. After the resolution of the acute case, reversing the possible underlying cause, in this case steroids, and typical standard of care measures are recommended [1,2].

Conclusion

Steroid induced hypertriglyceridemia is an uncommon cause of acute pancreatitis. Our recommendation would be the conservative use of systemic steroids in patients with underlying elevated triglyceride levels. If treatment with steroids is needed, education on lifestyle modification and possible triglyceride management should be discussed.

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