LETTER

Secnidazole-Induced Acute Pancreatitis: A New Side-Effect for an Old Drug?

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Dear Sir:

Secnidazole is a 5-nitroimidazole derivative with properties similar to metronidazole, with the exception of a more prolonged blood concentration. It is effective in hepatic amibiase, giardiasis, and bacterial vaginosis [1]. The most common adverse effects of secnidazole are a metallic taste, glossitis and stomatitis [2]. Digestive disorders such as nausea, vomiting and abdominal pain, are rarely reported.

We herein report a first case of pancreatitis associated with oral secnidazole therapy for bacterial vaginosis.

A previously healthy 22-year-old woman presented to the Emergency Department complaining of vomiting, severe epigastric pain and diarrhea. She described the pain as radiating to the back.

On admission the patient was apyretic and had normal vital signs. Abdominal examination revealed only mild epigastric tenderness. There was no rigidity or guarding. There were no palpable abdominal masses.

Laboratory tests showed an elevated blood amylase level of 445 U/L (reference range: 20-110 U/L) and lipase level of 312 U/L (reference range: 10-60 U/L). Her white blood cell count was 23,000 cells/mm^3 (reference range: 4,000-10,000 cells/mm^3). All other serum chemistry and hematology values were within normal limits, in particular, creatinine 0.73 mg/dL (reference range: 0.7-1.2 mg/dL), calcium 9 mg/dL (reference range: 8.5-10.2 mg/dL), cholesterol 143 mg/dL (reference range: 100-200 mg/dL), and triglyceride levels 113 mg/dL (reference range: 35-150 mg/dL).

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Abdominal ultrasound and a computed tomography scan with contrast showed pancreatic edema without evidence of gallstones. The common bile duct and the liver were normal. A diagnosis of mild acute pancreatitis with a Ranson's score of 2 was made.

There was no history of alcohol consumption, recent abdominal trauma or preceding viral syndromes. No family history of pancreatitis was noted. However, detailed history revealed that the patient had developed similar episodes of vomiting and abdominal pain when receiving metronidazole in the past. A first 2 g oral dose of secnidazole had recently beewn prescribed for abnormal vaginal discharge one week previously. One day after the second 2 g oral dose for secnidazole, abdominal pain and vomiting appeared.

Secnidazole was suspected as a probable cause of the pancreatitis. It was discontinued and the patient received total parenteral nutrition for three days. Her abdominal pain improved significantly over the first 48 hours. Serum amylase and lipase concentrations decreased to 79 U/L and 171 U/L, respectively, and continued to decline. Ten days later, they were within normal range. The patient was discharged with instructions to avoid secnidazole in the future.

Endoscopic ultrasonography performed a few days after discharge showed a normal gallbladder, common bile duct and main pancreatic duct. There was neither pancreas divisum nor pseudocysts. There were no pancreatic tumors. However, abnormal hypoechogenic foci were noted in the pancreas consistent with sequelae of acute pancreatitis.

The follow-up of our patient for several months did not reveal any episodes of abdominal pain or weight loss. There was no steatorrhea. Serum amylase and lipase levels were in the normal range. All these signs exclude the diagnosis of possible chronic pancreatitis.

The temporal relationship between secnidazole administration and the elevated pancreatic enzyme concentrations, the rapid improvement of values after

stopping the drug, the past history of digestive intolerance to metronidazole and elimination of the common causes of acute pancreatitis led us to classify our case as probable secnidazole-induced pancreatitis. According to Badalov's classification, secnidazole is included in class IV [3]. Although, the recurrent episodes of abdominal pain in our patient related to metronidazole intake were undiagnosed, these clinical features did not exclude possible acute pancreatitis associated with metronidazole. In fact, the diagnosis of mild cases of pancreatitis is difficult to reach since nausea, vomiting and abdominal cramping are known adverse effects of metronidazole.

The fact that secnidazole might be responsible for drug-induced pancreatitis is not entirely unexpected since it is structurally related to metronidazole which has been incriminated in the occurrence of several cases of pancreatitis. Metronidazole-induced pancreatitis is a well-known adverse drug reaction. The first case report of metronidazole-induced pancreatitis was published in 1985 [4]. To date, there have been twelve published case reports of metronidazole-induced pancreatitis [5, 6].

The mechanism of secnidazole-induced pancreatitis is unknown, although a 5-nitroimidazole derivative is known to diffuse into the pancreas, suggesting a possible direct toxic effect of free radicals on the pancreatic secretory cells [1]. The clinician should be aware of this new potentially adverse reaction to secnidazole.

Conflicts of interest The authors have no conflicts of interest

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