

Ciprofloxacin induced pancreatitis : Has this condition been overlooked ?

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Key words : acute pancreatitis, ciprofloxacin, adverse effects.

Ciprofloxacin is used extensively for various infectious conditions, and its most common adverse effects are vomiting and abdominal pain. Acute pancreatitis (AP) has also been reported as an adverse effect related to ciprofloxacin (1,2), but ciprofloxacin-induced pancreatitis (CIP) is a very rare condition. Thus, CIP might be overlooked in some cases. Herein, we present a rare case of CIP.

A 45-year-old female presented to the emergency room with a 24-hour history of nausea, vomiting, and severe abdominal pain radiating to her back. She had no cardiovascular, respiratory, or other comorbid disease. She was non-smoker and had no alcohol consumption, and her family history was unremarkable. On physical examination, her blood pressure was 100/60 mmHg and she had no fever, but she was tachypneic and tachycardic. Mild distension with tenderness was revealed on abdominal examination. Blood tests revealed the following results : glucose : 89 mg/dL ; amylase : 1339 U/L ; lipase : 1215 U/L ; C-reactive protein : 111 mg/dL ; triglycerides : 123 mg/dL ; white blood cells : 13,550/mm³ ; hematocrit : 39% ; and platelets : 183,000/mm³. Contrast-enhanced computerized tomography (CT) revealed diffuse enlargement of the head of the pancreas (Fig. 1). There was no biliary abnormality. Magnetic resonance cholangiopancreatography (MRCP) and hepatobiliary ultrasonography (USG) revealed no biliary tract abnormalities. The patient was asked about her drug prescriptions, and her son mentioned that she had taken ciprofloxacin for a urinary infection two weeks earlier.

Oral intake of ciprofloxacin was stopped and the patient was supportively managed for AP with fluid replacement and analgesics. Her pain began to decrease after 24 hours and completely resolved after 72 hours. Amylase and lipase levels returned to normal after 72 hours and all other labs normalized within five days. The patient was discharged with complete resolution of symptoms on the sixth day.

Ciprofloxacin is widely used and is considered to be a safe and effective treatment for several conditions. It can be a useful agent as empirical therapy in necrotizing pancreatitis to prevent secondary bacterial infections in the pancreatic field, because it easily penetrates the human pancreas (3). However, ironically, it has been reported

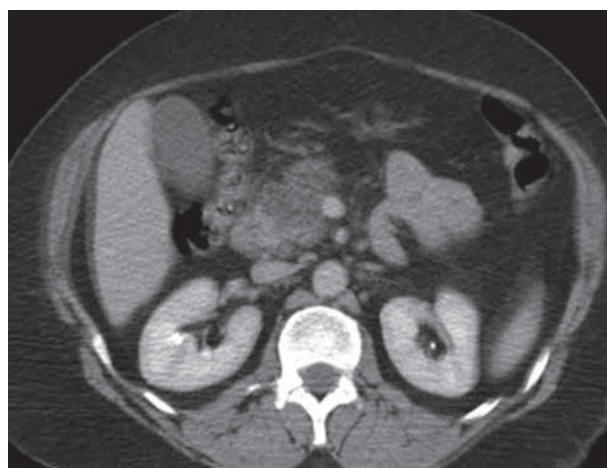


Fig. 1. — Abdominal computed tomography showed that swelling of the pancreatic head.

that ciprofloxacin can, in rare cases, cause drug-induced pancreatitis.

Drug-induced pancreatitis is estimated to account for 2% of all AP cases and presents a diagnostic challenge. Metronidazole, tetracycline, azathioprine, furosemide, thiazide diuretics, and codeine are the most common drugs related to AP (4). The pathogenetic mechanism in drug-induced AP is suspected to be an idiosyncratic hypersensitivity reaction because of the time frame of latency (1). In our case, we evaluated the patient for common etiologic factors for AP, including hepatobiliary problems (with USG and MRCP), cholelithiasis (with a lipid profile), and malignancy (with CT). In this case, the consistent latency period, between ingestion of the drug and development of AP, the patient's rapid recovery, and this being her first attack of AP support the diagnosis of drug-induced pancreatitis.

CIP is a very rare condition. Until 2014, there was only one case report of CIP in the literature (2). Later, Sung *et al.* followed up on patients who received ciprofloxacin for infectious colitis, and although the average

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Submission date : 10/08/2015

Acceptance date : 11/11/2015

time interval until development of AP was reported to be 5.5 days in that study, peak amylase levels were seen at the 11th day in one case and at the 20th day in another (1). Our case developed AP nearly two weeks after ciprofloxacin administration.

Although our patient's prognosis for her CIP is reported to be good and she recovered within three days, the outcome may be worse in some cases. In order to not overlook CIP, we recommend that ciprofloxacin usage should be considered a possibility in patients who present with AP of unknown cause.

Acknowledgments

Conflict of Interest : The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this paper.

Author Contributions : Kefeli A. : manuscript concept, design, and preparation of manuscript. Akturk A. : The radiologist. Yeniova A.O. ; Literature review. Basyigit S. : English editing, Review of the manuscript.

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