

Drug Induced Acute Pancreatitis

Sir,

Acute pancreatitis is an inflammatory process of pancreas with varying involvement of other regional tissues or remote organs system [1]. It is characterized by abdominal pain, nausea, elevated pancreatic enzymes (serum lipase, serum amylase) greater than three times the upper limit of normal [1, 2]. Some drugs are responsible for causing pancreatitis and about 2% of acute pancreatic cases are due to drugs.

A 16 years old male patient was admitted in our hospital with complaints of abdominal pain and vomiting for one day. He had past history of generalized tonic clonic seizures and he was on medication Valproic acid, Oxcarbazepine and Clobazam. He has no history of gallstones, alcohol abuse, and endoscopic retrograde cholangiopancreatography procedure, and trauma, surgical procedures near pancreas, hyperlipidemia, infections and hypercalcemia. On physical examination, abdomen showed epigastric tenderness, crepitations in the lungs and other physical findings were normal.

Laboratory investigations showed elevated serum lipase (1685 U/L), serum amylase (45 U/L), ESR (70 mm/1hour), and total bilirubin (0.6mg/dl). His SGOT, SGPT, triglyceride, total cholesterol, total HDL, total VLDL, total LDL, and calcium levels were in normal range. Urine culture revealed no growth. Chest X-ray revealed right basal pneumonitis with effusion. Computed tomography abdomen revealed features consistent with acute pancreatitis. Upon excluding all other etiological factors case was suspected as drug induced acute pancreatitis. Drugs which were previously used were stopped and anticonvulsants like Phenytoin and Levitiracetam were added to control seizures. Patient condition was improved after 10days with clinical symptoms.

80% of the acute pancreatic cases occur due to gallstones and alcohol abuse [1,3], while 2% of the cases may be due to drugs [4-6]. Different classifications are

used to describe casual relationship of specific agents to cause acute pancreatitis [4]: 1) Class 1 drugs – Drugs have 20 or more reported cases at least 1 report of positive rechallenge. 2) Class 2 drugs - Drugs have more than 10 but less than 20 reported cases, with or without positive rechallenge. 3) Class 3 drugs - Drugs that have been implicated in pancreatitis, including those with 10 or few reported cases or unpublished reports of pancreatitis.

Different mechanisms are involved to cause drug induced pancreatitis like hypersensitivity (onset after 4-8 weeks of use), accumulation of toxic metabolite (onset after several months of use), and hypertriglyceridemia (onset after several months of use) and intrinsic toxicity which sometimes related to overdose (onset may be almost immediate) [1]. Spasm of oddi is another mechanism. According to above mechanism class 1 drugs include Azathioprine, Corticosteroids, Didanosine, Cytarabine, Estrogens, Exenatide, Furosemide, Glyburide, Mercaptopurine, Mesalamine, Opioids, Pentamidine, Sitagliptin, Sulphamethoxazole and Thioprim, Sulphasalazine, Sulindac, Tetracyclines and Valproic acid [4]. Class 2 drugs include Carbamazepine, Cisplatin, Enalapril, Erythromycin, Hydrochlorothiazide, Interferon alfa, Isoniazid, Lamivudine, Metformin, Octreotide, Rifampin, Paracetamol [4].

Based on the patient's medication history of valproic acid use, signs and symptoms, and investigation findings, we made a diagnosis of drug induced acute pancreatitis due to Valproic acid. It comes under class 1 drug which causes pancreatitis after several months of use by causing accumulation of its toxic metabolites. So, we replaced the culprit drug with anticonvulsant drug. Here, we reported this case to make health care professionals aware about the drug induced problems.

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