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## Cocaine induced acute pancreatitis

### Pancreatitis aguda inducida por cocaína

Cocaine (benzoylmethyl ecgonine) is a crystalline tropane alkaloid that is obtained from the leaves of the coca. Cocaine is an addictive illegal drug<sup>1</sup>. Spain has become the top consumer of cocaine in continental Europe, according to a recent European Union study on drug use. By a United Nations count, 3% of Spain's adult population consumes cocaine. Specifically, it is a dopamine reuptake inhibitor, a norepinephrine reuptake inhibitor and a serotonin reuptake inhibitor<sup>2</sup>. Cocaine is a potent central nervous system stimulant. Short-term cocaine effects include: increased blood pressure, constricted blood vessels, mental alertness, dilated pupils, increased energy, increased heart rate and temperature and decreased appetite<sup>3,4</sup>.

Cardiovascular and neurologic are the predominant alterations. Digestive complications are infrequent. Pancreatic involvement is exceptional and only isolated cases have been reported<sup>2,5</sup>.

A 21 years old boy with epilepsy treated with lamotrigine was accepted at hospital with abdominal pain radiated straight through to the back, nausea and vomiting. Amylase reached 1710 U/L, lipase 2981 U/L, LDH 2399 U/L, Hematocrit 50,2%, white blood cell count was 21300/mm<sup>3</sup> (77,4% neutrophils) platelets 416.000/mm<sup>3</sup>. Blood urea, oxygen saturation, serum calcium, coagulation parameters and triglyceride levels were normal. The patient denied alcohol ingestion or drugs consumption. Serological studies for CMV, EBV and HIV were negative. Abdominal ultrasonography excluded gallstones and dilatation of the bile duct. A spiral computed tomography with contrast performed within 48

hours showed diffuse enlargement of the pancreas with minimal ascites (Grade B of Balthazar). Cholangiography MRI was normal. Because of these results USE and ERCP were not performed.

Urine drugs test was positive for cocaine and the patient admitted to use insufflated cocaine as a recreational drug. He had taken cocaine 48 hours before abdominal pain started. Alcohol consumption was ruled out.

Clinical evolution was positive without complications and the patient was discharged within 6 days. After hospitalization, he has been controlled every three months during two years without new events.

Cocaine consumption seems to be the cause of acute pancreatitis in this patient. The absence of other recognized etiologies, the antecedent of insufflated cocaine consumption in the last 48 hours and the elevated LDH serum values made cocaine to be the cause of acute pancreatitis in this young patient.

Cocaine consumption cause several medical problems<sup>6</sup>. Heart attack, arrhythmias, stroke and convulsions are the most frequent. Psychiatric, pulmonary and renal complications have been described. Digestive complications are infrequent. Intestinal ischemia<sup>9,10</sup>, perforation<sup>7</sup>, retroperitoneal fibrosis, gastric ulcer<sup>8</sup> has been described. Pancreatic involvement is exceptional and only very few cases have been reported.

Most of acute pancreatitis are related with alcohol consumption or gallstones. Pancreatic ischemia causes acute pancreatitis too.

Cocaine blocks the presynaptic reuptake of the neurotransmitters norepinephrine and dopamine. It also causes monoaminooxidases inhibition and it has a direct anticholinergic action. This way alpha- adrenergic receptors are highly stimulated. Activation of the sympathetic nervous

system by this mechanism produces vasoconstriction and ischemia<sup>8</sup>.

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