

Lead poisoning with presentation of acute abdomen and narcotic bowel syndrome in opium user woman

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ABSTRACT

Lead poisoning is a significant risk to public health, which may involve major organs. Recently, there have been reports of an outbreak of lead toxicity due to opium contamination with lead in Iran. Gastroenterology symptoms were the most presentation of lead toxicity in opium users. The following case report argument about GI presentation of lead toxicity. We here report a case of a 36-year-old woman presenting with an acute, severe abdominal pain. With reviewing of abdominal CT scans, a suspicious diagnosis of lead poisoning was made by detecting of multiple radiopaque lesions in the intestine. She was an oral opium user for several years. Lead poisoning was confirmed by toxic Blood lead level (BLL), and chelation therapy started under the toxicology expert's supervision. Early diagnosis of lead poisoning by assessing the BLL can prevent unnecessary investigations and interventions and permits early commencement of the treatment.

Introduction

Lead poisoning is a major public health risk which may involve major organs. Recently, there have been reports of an outbreak of lead toxicity due to opium contamination with lead in Iran. Gastroenterology symptoms were the most presentation of lead toxicity in opium users. The following case report argument about GI presentation of lead toxicity.

Presentation of Case

A 36-year old woman, a known case of uterus myoma that recently underwent embolization of uterus artery 15 days ago who came to emergency ward with acute abdominal pain, nausea, vomiting, and pleuritic chest pain. Pain was recurrent with colic quality. In physical examination, she had tenderness in left lower quadrant, radiating pain to the flanks and pelvic, with abdominal guarding. The patient was worked up by surgical service and acute abdomen was ruled out. In gynecology service consultation she was suggested to myomectomy. After 2 hours, pain decreased a little and abdomen was soft in physical exam. In checking cardiovascular system, she had ejection fraction 30 % and a massive bilateral pleural effusion. A therapeutic pleural

effusion tab was performed. In spiral lung CT angiography pulmonary thromboembolism was ruled out. In pelvic sonography she had a large intramural myoma (15*14 mm) with necrotic and echogenic centers due to embolization. In Color Doppler sonography, renal artery embolism were ruled out. In lower limb Color Doppler also were no signs of occlusion or thrombosis in veins. The serum level of amylase and liver function tests also were normal. Abdominal imaging showed no intra-abdominal obstruction. In abdominal CT scan, uterus was larger than normal with an intramural hypo-dense mass and also multiple radiopaque flakes representing paint chips were seen in intestinal lumen between fecal and also in the intestinal wall due to deposition of metal (Figure 1). Liver, pancreas, spleen, and kidneys were normal.

With suspicious diagnosis of heavy metal poisoning patient referred to toxicology service. At this time, the patient gave history of oral opium abuse for 3 years with dose of 0.3gr/day. Blood lead level (BLL) was 78 mcg/dl. She also had a severe hypochromic-microcytic anemia. The Patient was treated with IV chelators (Ca Na2 EDTA) and after that her signs and symptoms started to resolve and abdominal pain was obviously de-

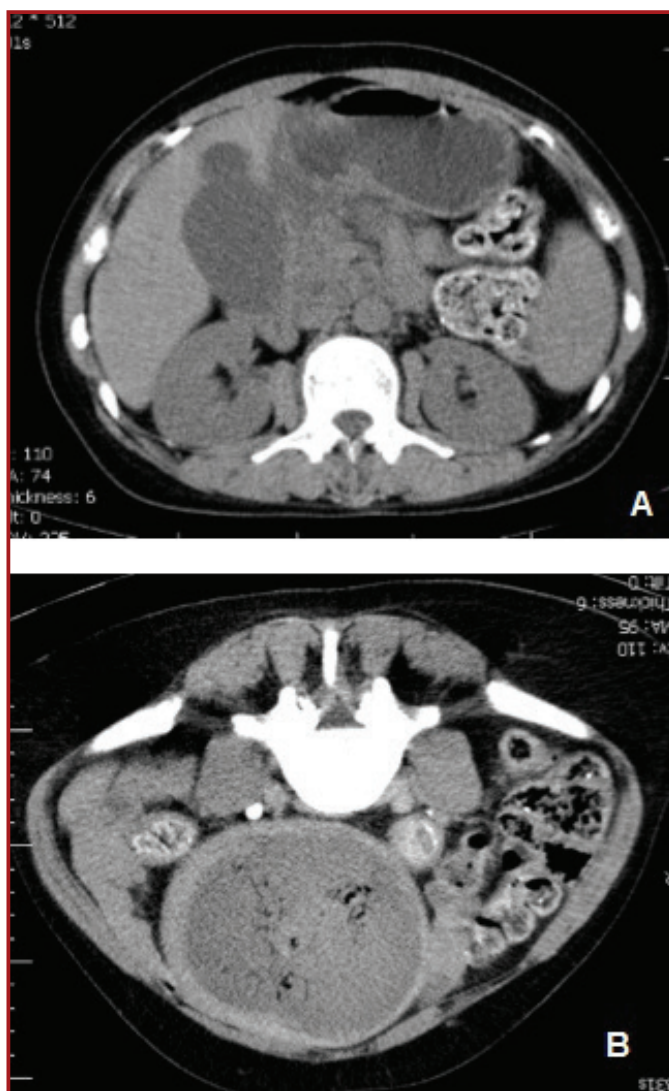


Figure 1. Deposition of lead in intestinal wall and in the lumen

creased in a few days. Seven days after treatment, BLL was decreased to 46 mcg/dl and there was no sign of abdominal pain.

Discussion

Lead is a heavy metal almost exist in sole. The main sources of lead poisoning are sole and contaminated water (1). Breathing in dust that contains lead can also cause it (2). Many jobs are also related to lead poisoning such as mining, burning fossil fuels and manufacturing has caused it to become more widespread (3). Lead has also been found as an adulterant in marijuana (4). Inorganic lead is absorbed from gastrointestinal (GI) tract and recently Oral use of contaminated opium is the main cause of new outbreak of lead poisoning in Iranian (5). Lead is a toxic metal that affects many functions and organ systems with multiple biochemical mechanism of toxicity. Symptoms and signs can be digestive or neurological, and they can be confused with other pathologies. That is the reason why it should be considered and, in case of doubt, complementary studies to confirm lead poisoning should be requested (6). Opium can be eaten and is more commonly abused in the Asia than West countries and USA. Patients with an opium use may show no acute effects related to opium use but may come with its complications like GI tract problems or opium-related lead toxic-

ty. Patients that using opium often experience opium-induced bowel dysfunction (OBD) such as constipation, fecal impaction, fissure, and biliary colic. Narcotic bowel syndrome (NBS) is a variety of OBD that characterized by recurrent abdominal pain associated with ileus and/or partial gut obstruction that may mimic an acute abdomen (7). In adult, lead poisoning usually present with nonspecific symptoms and signs such as constipation, anemia, abdominal pain, and also NBS in severe toxicity. Lead poisoning can mimic these opium side effects but the other organs such as brain, kidney, and hematopoietic system also may affect in lead toxicity. So, clinician need to take a proactive role in early detection by screening patients with possible use of opium and lead exposure.

Although our case denied opium use at first, she was an oral opium abuser for many years. Nowadays opium accepted as a new source of lead poisoning in some countries like Iran.

Colicky abdominal pain (Lead colic) usually is seen with BLL more than 80 mcg/dl. In this case, because of hiding of opium use and also in the presence of underlying uterus mass, symptoms of colicky abdominal pain misdiagnosed that led to unnecessary evaluation at ED. she also was a candidate for surgery until some radiopaque density were found in her abdominal CT-Scan that was suspicious for lead poisoning. Radio-dense Tablets such as Iron or potassium chloride tablets and metals such as mercury and lead can cause radiopaque lesions. Iatrogenic ingestion of barium should also be considered.

The patient had chronic abdominal pain with unknown source for several months accompanied with Hypochromic-microcytic anemia and in abdominal CT scan some accidental radiopaque lesions were seen in intestinal wall which suspected physician to heavy metal poisoning. So, we recommend taking a care full medical history for opium abuse as potential new source of lead toxicity especially in Asian patients who come with recurrent abdominal pain associated with anemia and when detecting metallic density in abdominal radiograph or CT-Scan. In this setting, checking BLL will be a key clinical test for diagnosis of Lead poisoning.

Conclusions

In absence of history of lead exposure, poisoning with lead easily may misdiagnose and some of the patient with severe abdominal pain may undergo unnecessary emergent abdominal surgery. Early diagnosis of lead poisoning by assessing the BLL in opium users can prevent unnecessary investigations and interventions, and permits early commencement of the treatment.

Acknowledgment

There is nothing to acknowledge for the present study.

Conflict of interest

There is no conflict of interest for the present study to declare.

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