An unusual cause of abdominal pain - Lead toxicity!

Mayank Jain

ABSTRACT

A young male patient presented with generalised abdominal pain and anaemia. Ultrasound and CT scan of the abdomen were normal. On detailed history, it was noted that he had been taking alternative medicines on his own, for respiratory tract infection, for the last six months. Special tests showed elevated serum lead levels and high content of lead in the medication he had been taking. Withdrawal of the offending agent and symptomatic treatment led to clinical improvement.

Case report

A 30 year old Sindhi gentleman presented with complaints of generalized abdominal pain for two weeks. He used to chew tobacco and take alcohol socially. On examination, his vitals were stable and apart from pallor, no major physical abnormalities were noted. Complete hemogram showed low haemoglobin (8.5 gm/dl) with MCV of 80 fl. Total leucocyte counts, platelet counts and other biochemical parameters were within normal parameters. Ultrasound abdomen was normal. Upper gastrointestinal endoscopy showed erythema in the antrum and rapid urease test for Helicobacter pylori was positive. He was started on H. Pylori eradication regimen.

Two weeks later, he again presented with history of generalised abdominal pain, vomiting and yellowish discolouration of urine. On examination, he was icteric and pale. Systemic examination was unremarkable. Hemoglobin was 9 gm/dl with normal leucocyte counts and platelets. Serum bilirubin was elevated (total 2.8, Direct 1.7 mg/dl) with normal transaminases and prothrombin time. Computed tomography scan of the abdomen was normal. In view of anaemia, hemoglobin electrophoresis was done and reported as normal. Peripheral smear for basophilic stippling and urine for porphobilinogen were negative.

In view of persistent anemia and pain in abdomen, possibility of lead toxicity was considered. On detailed history taking, patient reported as he was self medicating himself with alternative medicines for respiratory tract infection for last 6 months. Serum lead levels were high (31.4 normal 10-25 mcg/dl) with high content of lead in his hair (4.5, normal <2 mcg/dl). The lead content in tobacco was within permissible limits (0.84 mcg/gm, normal <300) while it was alarmingly high (1507 mcg/gm, normal <300 mcg/gm) in the alternative medicine powder. Since the patient had jaundice, arsenic and mercury levels were also checked in blood, hair and tobacco. They were found to be within normal limits.

He was advised to stop alternative medications and started on iron, calcium and zinc supplements. On follow up 15 days later, he reported significant symptomatic improvement.

Discussion

Although uncommon, lead poisoning should be considered as a differential diagnosis in cases of unexplained acute or recurrent abdominal pain in both adults and children.

The most common source of lead poisoning is occupational exposure.1 With stringent regulations, the occupational lead exposure has declined worldwide. Currently, lead poisoning as a result of nonoccupational exposure such as using herbal medicines or drugs, is being increasingly reported1-3. Increasing practice of self-medication with drugs from uncontrolled sources, as in this patient, increase the risk of drug-induced poisoning.

Patients with lead poisoning present with nonspecific symptoms and signs such as abdominal pain, fatigue, anorexia, constipation, headache, irritability, and insomnia4-6. These presentations may mimic hematological, gastrointestinal, neuropsychiatric, cardiovascular, renal, or endocrine disorders and make the diagnosis challenging and difficult.5-7. At low blood levels (of lead) (<10 µg/dL), nonspecific symptoms like malaise, anorexia, and irritability are noted. Extremely high blood lead levels (>70 µg/dL) could result in cerebral edema,