



Internal Medicine Flashcard

An incidental finding of metallic objects in a patient with chronic renal failure



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1. Introduction

A 69 year old male presented with one month of general weakness and progressive shortness of breath. Workup revealed a large unknown pleural effusion, and he was admitted to our hospital for investigation. Medical history included kidney transplantation 11 years prior to his admission, due to end stage renal disease secondary to type 2 diabetes mellitus, diabetic retinopathy and neuropathy, hypertension, ischemic heart disease, CVA and fixation of the cervical spine 15 years ago. His kidney function gradually declined due to uncontrolled diabetes mellitus and chronic rejection, reaching advanced renal failure.

His regular home medications included: furosemide, cilazapril, duloxetine, acetyl salicylic acid, prednisone, mycophenolate mofetil, metoprolol, lercanidipine, folic acid, doxazosin, atorvastatin, tacrolimus, pantoprazole, insulin glargine and insulin aspart. Lanthanum carbonate was added in hospital.

During his stay at the hospital, a computed tomography (CT) scan of his chest and abdomen was done, and multiple radio opaque objects were seen in his stomach, small intestine and rectum. The patient denied swallowing metal objects of any kind, and his wife denied knowledge of intake of foreign bodies.

2. What is the diagnosis?

The radiopaque objects were found to be pills of lanthanum carbonate, a phosphor binder that the patient had taken due to his chronic and progressive renal failure. Lanthanum carbonate is a metallic element, well known to be radiopaque in abdominal plain X-ray films and CT scans [1,2]. The proper administration of the drug includes chewing before swallowing. In this case, the patient had swallowed the pills in whole, due to improper instruction regarding drug administration, contributing to the unusual appearance on the CT scan. A previous CT

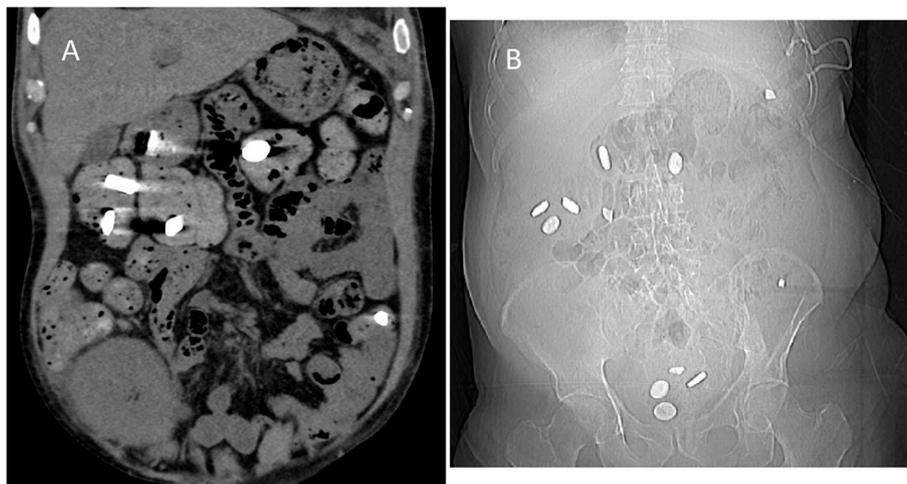


Fig. 1. Coronal section of abdominal CT scan revealing multiple metallic objects along the digestive tract (Panel A), and surview of the same CT scan (Panel B).

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scan of the patient, done three weeks prior to his hospitalization, didn't show a similar appearance, and an abdominal X-ray done three days after the last CT scan demonstrated only small fragments of lanthanum. During this time, the patient had been taught to chew the pills. In the CT scan, the imaging findings were originally interpreted as metal objects that had been swallowed by the patient, an interpretation that led, unjustly, to a confrontation with the patient and his wife, about this possibility.

Familiarity with the unique appearance of lanthanum carbonate on imaging can prevent misinterpretation of imaging modalities.

Therefore, the presence of phosphor binders should be considered in any patient with renal failure and radio-opaque objects on abdominal scans ([Fig. 1](#)).

References

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