



Figure 1. Two-dimensional echo (A and B), apical two-chamber view, showing the evolution of the different cavities in size and volume. In the Doppler images below (C and D), we observe that mitral regurgitation practically disappears after the kidney transplant is performed.

should be considered in patients with heart failure, since remaining on dialysis may result in progressive, irreversible myocardial dysfunction. Other studies also indicate that kidney transplant, with all of the physiological changes that it entails and the way it corrects factors arising from uraemia, can decrease and often resolve cardiac abnormalities secondary to chronic renal failure. It reduces hypertrophy and dilation of the left ventricle and improves systolic and diastolic ventricular function.²⁻⁴

Therefore, the notable improvement in cardiac function after a kidney transplant reinforces the indication of transplants in these patients.

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Severe hypernatraemia, hyperphosphataemia, metabolic acidosis and renal failure secondary to the administration of cleansing enemas

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Dear Editor,

Colonoscopy preparation solutions are widely used due to their rare side effects. However, we must exercise caution when using them in extremely old or young patients and those with digestive and/or renal diseases.¹

In patients with renal failure, it may trigger severe electrolyte imbalances, including severe hypernatraemia, hyperphosphataemia, hypokalaemia, metabolic acidosis or renal failure secondary to dehydration. We herein describe a case with those alterations and severe clinical consequences.

Male patient aged 30 years with a history of congenital encephalopathy and secondary mental retardation, congenital digestive disorder, chronic renal polycystic changes with severe long-term ureterohydronephrosis and secondary chronic renal failure with recurring urinary tract infections. The patient is a dependent for all life activities. He was admitted due to a partial ileus (figure 1) secondary to foreign objects (plastics, soil, etc.), with unremarkable blood chemistry except for a serum creatinine (Cr) level of 1.4mg/dl that he already presented in previous laboratory tests. From the time he was admitted, he was treated with abundant fluid therapy and cleansing enemas, and various types of foreign bodies were obtained over the following three days. On the fourth day after admission his state of consciousness began to deteriorate progressively and the blood test showed the following: Cr, 5mg/dl; urea, 116mg/dl; Na, 197mmol/l; K, 2.6mmol/l; Cl, 159mmol/l; pH, 7.2; HCO₃, 14.9mmol/l; GAP, 23; Ca, 7.4mg/dl; P, 14.9mg/dl, and osmolarity



Figure 1. Simple radiography of patient's abdomen at admission.

389mOs/kg. Given data indicating renal failure, normochloroemic metabolic acidosis, hypernatraemia, hypokalaemia and hyperphosphataemia, and their severe clinical repercussions, we decided to perform a session of haemodialysis, and the patient responded well. After two additional haemodialysis sessions we obtained electrolyte levels within the normal range and resolution of the neurological syndrome that had occurred. When the patient was discharged from the hospital, nitrogen retention levels had been stabilised and were similar to those at time of admission.

Due to the low clinical suspicion of this condition, diagnosis and initiation of treatment are often delayed, and for that reason, mortality is between 17 and 33% depending on the series.²

To conclude, we must evaluate the risk-benefit continuum before using a colonoscopy preparation and if it is necessary, use preparations specially designed for patients with renal failure, such as XPrep.^{3,4}

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Radiology image of lanthanum carbonate

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Dear Editor,

Lanthanum carbonate is a calcium and aluminium-free phosphorus binder that has recently come to market in Spain. It is a heavy, non-toxic metal that is not absorbed by the intestine. The substance's package leaflet in our country does not allude to the phenomenon of its appearance in radiology images. This is not the case in the USA's version, which states that "radio-opaque images may appear in abdominal radiographies of patients who consume lanthanum"¹. The most commonly reported adverse reactions were gastrointestinal, but the clinical trials did not include patients with intestinal obstructions or inflammatory intestinal disease.²

We present the case of a 58-year old man with pan-colonic diverticulosis and frequent diverticulitis episodes with CKD secondary to diabetic nephropathy who began a periodic

haemodialysis programme in April 2001. He was admitted in July 2008 for fever and abdominal pain. An emergency abdominal CT ruled out signs of diverticulitis, but the radiologist reported "remnants of contrast in the entire colon and terminal ileum" (figure 1), which was confirmed by a simple abdominal x-ray (figure 2). Our patient had not received any radiological contrast at any time, but he had been receiving treatment with 3000mg lanthanum carbonate daily for severe hyperphosphataemia since February of that year, with excellent lab results and good clinical tolerance up to that moment. The final diagnosis was sepsis due to *Enterococo avium*, most likely of intestinal origin. Since there were no other findings in the imaging tests that could explain the abdominal pain, lanthanum treatment was discontinued, after which the patient remained asymptomatic.

With a view to studying the findings, a simple abdominal radiograph was taken in another patient receiving the same dose of that metal and who had not had any digestive symptoms. The deposit was also observed throughout the contour of the colon, but showed a different radiological pattern (figure 3).

References in the literature describing this phenomenon are scarce and contain various explanations. According to our research, the first radiological image attributed to lanthanum consumption was shown by Cerny and Kunzendorf³ in 2006. In this case, the drug was discontinued because after seeing the radiography, doctors felt that the patient's abdominal pain could be related with the lanthanum. Other cases were subsequently reported.⁴ David et al.⁵ interpreted the radiograph as an intestinal deposit of calcium phosphate stones that prove lanthanum's effectiveness as a binder, and even suggest that such an image could be used as a test of therapeutic compliance. That theory is refuted by Pafcugova et al.,⁶ who showed that the tablets themselves inside a vial are