Calcium polystyrene sulfonate

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Intestinal necrosis in an elderly patient: case report

A 73-year-old woman developed intestinal necrosis following administration of calcium polystyrene sulfonate for adrenal insufficiency. She later died.

The woman, who had a history of chronic pulmonary obstructive disease, presented to an ED with abdominal pain. She was diagnosed with acute colonic pseudoobstruction. On hospital day 3, she developed adrenal insufficiency and received calcium polystyrene sulfonate 15 g/day through a nasogastric tube from day 3 to day 6. She also received hydrocortisone, magnesium sulfate, paracetamol [acetaminophen] and IV isotonic saline. Severe abdominal pain returned on day 6, as well as abdominal tenderness and symptoms of shock. CT scan revealed pneumoperitoneum and peritoneal effusion.

The woman underwent surgery, during which jejunal perforations and caecum ischaemia were discovered. Following bowel resection, pathology revealed an ulcerated caecal mucosa with a submucosal abscess. A white fibrinous coating was observed on the ileum serosal surface. The caecal and most of the jejenul mucosal ulcers were embedded with small grey-purple or blue crystals that stained dark red with periodic acid-Schiff stain. On day 11, she developed a second episode of shock. Explorative laparotomy revealed peritonitis caused by a rupture of her colonic anastomosis. A white "deposition" was noted on the serosal surface of the resected small bowel. Mucosal ulcerations containing the aforementioned crystals were also found. On day 17, she developed a mesenteric infarction and required further resection surgery. The resected fragment of small bowel was oxblood red in colour and the mucosal structure was infarcted with crystals. Crystals were also found on the ischaemic serosa and the submucosa was oedematous and haemorrhagic. Two days later, she died of multiple organ failure.

Author comment: "*The Naranjo probability scale indicated a probable adverse drug reaction.*"

Goutorbe P, et al. Intestinal necrosis associated with orally administered calcium polystyrene sulfonate without sorbitol. Annals of Pharmacotherapy 45: e13, No. 2, Feb 2011. Available from: URL: http://dx.doi.org/10.1345/aph.1m547 - France

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