Acute Abdominal Pain in an End Stage Renal Disease Patient

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An 81-year-old female with history of end stage renal disease on hemodialysis presented with worsening of abdominal pain of 2 days' duration. The pain started as a dull ache over the lower abdomen 2 months earlier, diffuse but especially prominent over the lower quadrant, and was unrelieved by analgesic medications. On physical examination her whole abdomen was diffusely tender, but the lower quadrant was extremely tender with palpable nodular lesions. Her laboratory work showed a normal amylase and lipase level along with a white cell count of 13.5K/CUMM (3.5-10.6 K/CUMM), calcium of 10.6 mg/dL (8.2-10.6 mg/dL), phosphorus of 5.9 mg/dL (2.3-5.0 mg/dL) and intact PTH 880 pg/mL (18-86 pg/mL).

She had a computed tomography of the abdomen and pelvis (Figure), which showed multiple soft tissue densities in the lower quadrant of anterior abdominal wall, while the ultrasound of her abdomen (Video) revealed subcutaneous nodule with internal septations and calcified vessels. Both these findings in the setting of end stage renal disease were consistent with calciphylaxis, a rare, and often fatal, complication. Although ulceration is considered a hallmark of calciphylaxis, it can also present as non-ulcerative nodular lesions, as in our patient.[1] Various putative risk factors for calciphylaxis include obesity; serum aluminum is greater than 25 ng/mL and serum calcium phosphorus product more than 70.[2] Treatment is multifaceted, including strict control of secondary hyperparathyroidism, maintenance of calcium phosphate product below 55 mg^2/dL^2 using non-calcium containing phosphate binders, administration of intravenous sodium thiosulfate with each dialysis (6-12 weeks), and a trial of prednisone tapered over a period of a couple of weeks.[1] With the above treatment, she had significant improvement of symptoms. Our case highlights the need for emergency physicians to be cognizant of this life-threatening complication in end stage renal disease patients and of the fact that calciphylaxis has different modes of presentation, among which is acute abdominal pain.

Figure. Computed tomography of the abdomen and pelvis without contrast showing multiple soft tissue densities in the anterior abdominal wall (A). Calcification of blood vessels within the abdomen and pelvis was also noted (B).

Video. Ultrasound of abdomen revealing subcutaneous nodule.

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