

EMERGENCY IMAGING

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FIGURE 1



FIGURE 2



A 35-year-old woman with advanced renal failure presents to the emergency department with nausea and epigastric pain radiating to the flank. Radiographs of the abdomen are obtained (Figures 1 and 2). The patient has not received any oral or intravenous contrast.

What is your diagnosis?

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CONTINUED

ANSWER

FIGURE 3

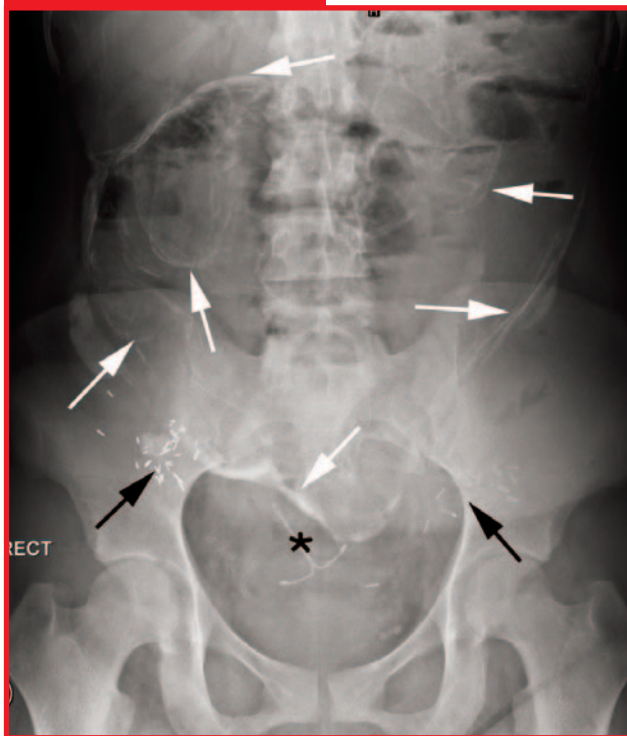


FIGURE 4



Abnormalities are seen on the abdominal radiographs, including sharp definition and high density of the bowel walls and peritoneal surfaces (white arrows, Figure 3). This would be worrisome in a patient who had been given oral contrast, as it would indicate presence of contrast within the bowel as well as spillage into the peritoneum. However, this patient did not receive any contrast material. The fact that she has end-stage renal disease is important, and the surgical clips in the pelvis (black arrows, Figure 3) indicate that this patient has had renal transplants. The metallic object seen overlying the mid pelvis (black asterisk, Figure 3) is an intra-uterine device and is incidental to this case.

On CT of the abdomen and pelvis (Figure 4), the high density is seen to represent extensive, diffuse sheet-like calcifications of the peritoneal reflections and serosal surfaces of large and small bowel (white arrows). A transplanted kidney is seen in the left lower pelvis (black arrow), and surgical clips indicating the presence of a right lower quadrant transplant kidney, which failed, are also present (red arrow). Given that the patient has such advanced renal disease (suggesting that she may have had peritoneal dialysis in the past), and due to the diffuse calcifications, the diagnosis in this case is sclerosing peritonitis.

Sclerosing peritonitis is an uncommon complication of long-term peritoneal dialysis. Reported incidence is between 0.9% and 7.3% in peritoneal dialysis patients.¹ This entity is characterized by proliferation of fibroconnective tissue, inflammatory infiltration, and thickening of peritoneum with encasement of a variable extent of small bowel. Because of the appearance of the small bowel encasement, this entity has also been called an *abdominal cocoon*. Occasionally, large bowel, stomach, or other organs may also be involved. As the disease develops, patients may present with nausea, vomiting, abdominal pain and, in severe cases, small bowel obstruction.¹

First described by Foo et al in 1978,² sclerosing peritonitis may also result from prior abdominal surgery and peritonitis, practolol therapy, sarcoidosis, tuber-

culous pelvic inflammatory disease, and indwelling abdominal catheters. Rare cases of primary idiopathic sclerosing peritonitis affecting female adolescents growing up in the tropics have been reported.²

When the condition is detected in patients who are undergoing peritoneal dialysis, the dialysis should be discontinued. However, sclerosing peritonitis is often progressive, with reported mortality rates ranging from 20% to 60%.¹ A few case reports have described surgical excision of the peritoneal membranes and lysis of adhesions with favorable outcome.^{3,4} **EM**

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