

often in those on peritoneal dialysis (PD) than in those on hemodialysis, with an incidence of 1% – 4% in those on PD (1,2). The syndrome has also been reported in individuals with normal renal function and in non-dialysis chronic kidney disease patients (3–6).

Despite a multidisciplinary approach, management of CUA is challenging because of a very high mortality—in the range 45% – 80% (7–11). Since the year 2000, several reports have been published of a significant role for intravenous sodium thiosulfate (STS) in treating CUA (8,11). Mataic *et al.* (12) were the first to report the benefit of intraperitoneal STS for the treatment of CUA.

Here, we present a case of CUA treated with intraperitoneal STS that subsequently led to chemical peritonitis.

CASE REPORT

An 82-year-old white woman on PD for end-stage renal disease secondary to lupus nephritis was admitted with 1 – 2 weeks of left lower extremity pain. The pain was associated with a nontraumatic purple discoloration and ulceration over the medial aspect of her calf that had increased in size over time. The patient had a past medical history of coronary artery disease, obstructive airway disease, Sjögren syndrome, and obesity. Her medications included calcitriol, allopurinol, atenolol, hydroxychloroquine, and tiotropium. Examination revealed an ulcerated region over the medial aspect of her calf, with induration and a jagged border (Figure 1). A clinical diagnosis of CUA was made, and skin biopsy confirmed the diagnosis (Figure 2).

The patient's calcitriol was discontinued, and the skin care team got involved. To help treat the CUA, intraperitoneal STS (25 g/2 L dialysate) was administered during three 2-L exchanges. Within 12 hours, the patient developed severe abdominal pain with cloudy effluent. Analysis of the effluent showed a white cell count of 4500/mm³, with 92.0% neutrophils, protein exceeding 0.6 g/dL, and lactate dehydrogenase 90 U/L. Gram stain from the fluid was negative.

Over the next few hours, rapid clinical deterioration occurred, and the patient was transferred to the intensive care unit for hemodynamic support. She was also started empirically on broad-spectrum antibiotics pending culture reports. Peritoneal dialysis was discontinued, and she was started on continuous renal replacement therapy. When the peritoneal fluid and blood cultures showed no bacterial growth, a diagnosis of chemical peritonitis secondary to STS was made.

The patient continued to receive supportive care. She deteriorated clinically and expired a few days later.

Chemical Peritonitis After Intraperitoneal Sodium Thiosulfate

KEY WORDS: Calciphylaxis; intraperitoneal; sodium thiosulfate; peritonitis.

Editor:

Calcific uremic arteriopathy (CUA, “calciphylaxis”) is a syndrome the pathogenesis of which remains poorly understood. It is seen mostly in dialysis patients, more

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