

*Clinical Image*

## A Rare form of Urinary tract Infection in a Transplanted patient

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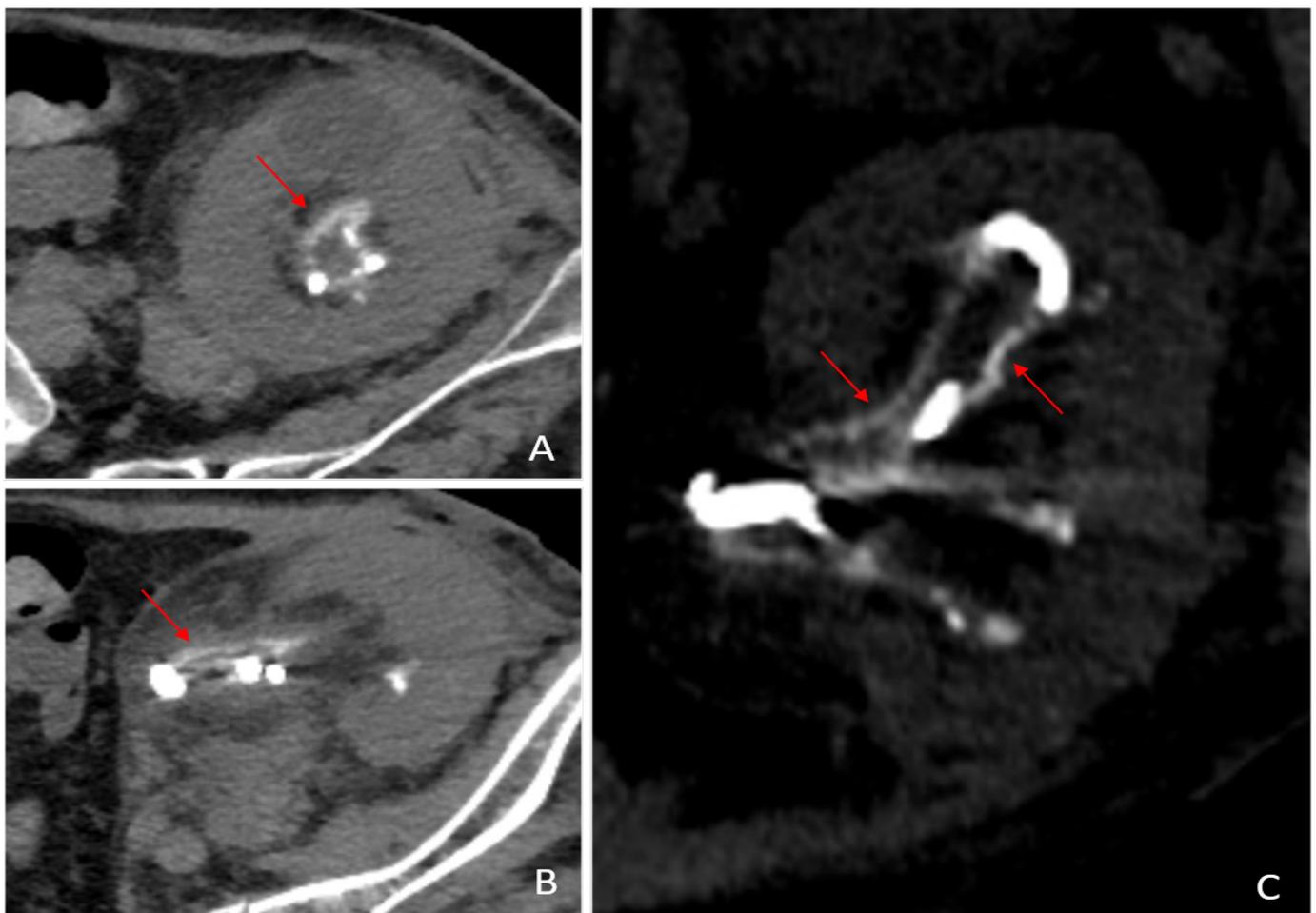
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A 62-years-old woman with end-stage renal disease received a 2nd kidney transplant. The early post-transplant period was complicated with lymphocele formation, causing bladder and ureteric compression, and left iliac vein thrombosis. The lymphocele was initially treated with local drainage and warfarin was also initiated for vein thrombosis. After two months the patient presented with worsening kidney function and reformation of lymphocele. Local drainage with instillation of iodopovidone was attempted but did not resolve the collection so a percutaneous nephrostomy (PCN) was performed. The urology team then tried to clamp the PCN but symptoms of urinary obstruction and infection resumed. A fistula of the ureter-bladder anastomosis was

identified so the patient underwent surgery to reimplant the ureter and drain the peri-allograft collection. A *Corynebacterium urealyticum* was identified in the drained fluid. The abdominal computed tomography (CT) scan performed one month after showed thick linear urothelial calcification suggestive of alkaline-encrusted pyelitis (figure 1, panels A-C).

The patient was initiated on endovenous linezolid and high doses of ascorbic acid and also instillation of Suby G through the nephrostomy. A CT scan two months after showed persistence of the urothelial calcification.

The patient had several episodes of hospital admission for acute py-



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elonephritis. Allograft function had progressively declined, also due to the progression of the iliac vein thrombosis to the allograft vein, and the patient underwent transplantectomy after 12 months.

Alkaline-encrusted pyelitis is a rare form of urinary tract infection characterized by encrustations in the wall of the upper urinary tract or bladder. It is caused by urea-splitting agents, most often *Corynebacterium urealyticum*. Three conditions must be present to cause this: immunosuppressed state or prolonged antibiotic therapy, previous

urologic procedure and preexisting urothelium lesion. Breakdown of urea by bacterial urease increases urinary pH above 7,5 favoring the formation and deposition of struvite and carapatite that appear in CT scan as linear urothelial calcifications.

Diagnosis could be difficult because *C. urealyticum* grows fastidiously in common culture conditions.

Treatment includes proper antibiotic therapy, acidification of urine, and in some cases surgical removal of the encrustations.