

## CLINICAL IMAGE

# Diffuse calcification of a nonfunctioning kidney allograft

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**Abstract**

Diffuse calcification of nonfunctioning kidney graft may rarely occur in clinical practice, and it is generally benign and does not require transplant removal in most cases.

**KEYWORDS**

calcification, end-stage kidney disease, kidney transplantation

Diffuse calcification of failed kidney allograft is rarely seen in clinical practice. We report the case of a peritoneal dialysis patient with massive calcification of the graft found incidentally on plain abdominal radiography.

A 65-year-old caucasian woman with end-stage kidney disease due to hypertension received a cadaveric kidney transplant seven years before the present admission. The patient developed an acute rejection of the allograft (6 weeks after procedure), and she was started on continuous ambulatory peritoneal dialysis. She was admitted to our unit for cloudy peritoneal effluent and abdominal pain. The diagnosis of peritonitis with *Staphylococcus aureus* was established, and the patient was treated successfully with intraperitoneal administration of vancomycin and gentamicin.

Plain abdominal X-ray revealed extensive calcification of the renal graft in the right iliac fossa (Figure 1).

The failed kidney allograft can be left in situ in patients who return to chronic dialysis therapy. Despite their lack

of physiological function, the graft can rarely be the site of massive calcification.<sup>1</sup>

The pathogenesis and the factors which determine the kidney graft calcification are unclear; elevated calcium phosphate product, secondary hyperparathyroidism, increased dialysis vintage, and chronic inflammatory rejection have been incriminated as risk factors.<sup>1</sup>

Our patient had controlled secondary hyperparathyroidism (serum phosphate 4.5 mg/dl, corrected total serum calcium 10.3 mg/dl, intact parathyroid hormone 315 pg/ml; without significant fluctuations from previous assessments), but an increased dialysis vintage and graft rejection shortly after the transplantation procedure.

Typically, nephrectomy of the calcified allograft is not necessary unless specific clinical indications like malignancy, infectious diseases, or spontaneous rupture of the kidney is present.<sup>2</sup>



**FIGURE 1** Plain abdominal radiography shows diffuse calcification of the renal graft in the right iliac fossa; continuous ('tram line') calcifications of the pelvic arteries suggestive for arteriosclerosis are present; the peritoneal dialysis catheter is correctly positioned

#### ACKNOWLEDGMENT

The patient provided written informed consent for the publication of the images and clinical data.

#### CONFLICT OF INTEREST

None declared.

#### AUTHOR CONTRIBUTIONS

GȘ wrote the initial draft and revised the manuscript for critically important intellectual content. AZ, SS, and SC revised the manuscript and approved the final form, assisted in procuring and editing the images.

#### ETHICAL APPROVAL

The paper is in compliance with Wiley's Publication Ethical Guidelines.

#### DATA AVAILABILITY STATEMENT

Data available is on request from the authors.

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**How to cite this article:** Ștefan G, Cinca S, Zugravu A, Stancu S. Diffuse calcification of a nonfunctioning kidney allograft. *Clin Case Rep*. 2021;9:e04765. <https://doi.org/10.1002/ccr3.4765>