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Case Report

AUTONEPHRECTOMY OF A TRANSPLANTED KIDNEY

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ABSTRACT: Autonephrectomy is a radiological term used to describe the end stage renal tuberculosis, the kidney is totally calcified and non- functioning. In this case report a similar appearance in a transplanted kidney is presented in a patient with renal osteodytrophy.

CASE HISTORY

A 17-year old male patient presented with uremic symptoms. Physical examination was unremarkable apart from pallor and uremic smell. He was admitted with the following results:

PCV	22
Ca	9.1mg/dl
PO_4	10.5mg/dl
Creatinine	11.5 mg/dl
BUN	124 mg/dl
Na	134 mEq/L
K	4 mEq/L
Alkaline Phosphates	898 IU
Protein	70 gm/L
GFR	6 ml/min

Renal ultrasound revealed small echogenic kidneys but no evidence of obstructive changes. Subcalvian catheter was inserted and the patient was started on regular hemodyalsis weekly. The patient was supplied with the following medications:

$CaCO_3$	500 mg
Alfa calcidol	0.25g and
folic acid	

A year later he was admitted for live related kidney transplant from his cousin which was complicated by accelerated rejection for which he was given methyl prednisolone 1 gm I.V for three days, and he was maintained on Cyclosporine 2cc, Immuran 50 mg and Prednisolone 60mg/day to be tapered over the coming six weeks.

The patient continued to have reduced urine output with high levels of creatinine around (10mg/dl) over the following six months for which immunossuppressive drugs were discontinued and he was back on dialysis again.

The patient was admitted again three years later with generalized bony aches, myalgias, and difficulty in walking. On examination he was anemic, B.P 150/90 mmHg lying, chest had barrel shaped deformity with fine basal crackles, heart had mitral regurgitation murmur. Abdominal examination was unremarkable, upper limbs showed pseudoclubbing, lower limbs showed atrophic muscles with decreased power to 3/5 and no sensory deficit.

Lab results showed: creatinine 13 mg/dl, Ca 7 mg/L, Alkaline Phosphatase 1200 U, PTH level 1200 mg/ml.

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Neck ultrasound showed bilateral parathyroid gland enlargement suggestive of parathyroid adenoma. Skeletal survey showed typical changes of renal osteodystrophy in the hands Fig 1.

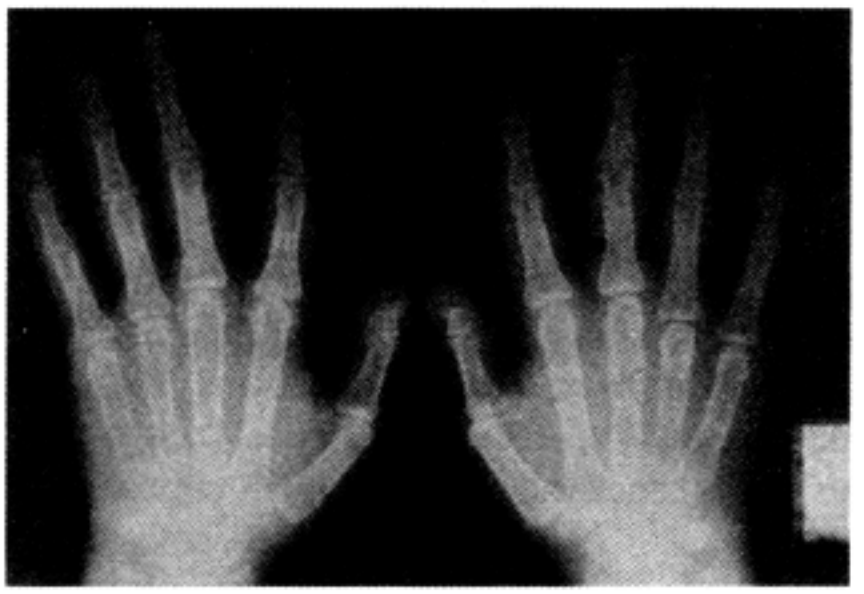

Fig. 1: Hand X-ray: shows subperiosteal bone erosions of the phalangeal shafts and erosions of the terminal tufts with decrease bone density.

Pelvis X-ray showed a totally calcified transplanted kidney with triradiate deformity and prorusia accetabulea in both sides more in the left side along with generalized oseopenia. Fig. 2.

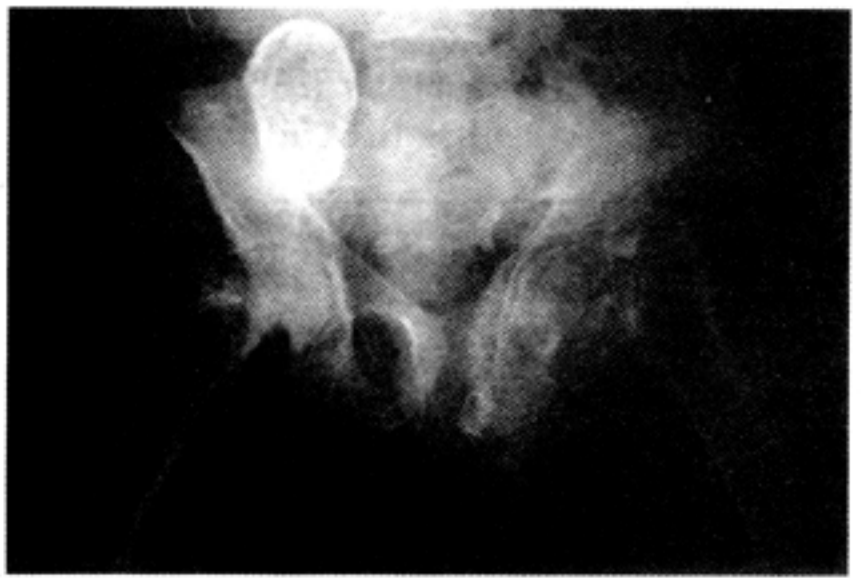

Fig. 2: Pelvis x-ray: shows a calcified transplanted kidney in the right side of the pelvis with triradiate pelvis deformity and protrusia accetabuli with generalized osteopenia.

DISCUSSION

The pathophysiology of renal osteodystrophy i.e. osteomalacia and hyperparathyroidism, worked up in increasing the blood calcium and phosphates levels[1,2]. Classical renal ostedystrophy is an example of increased bone turnover and can vary both morphologically and in severity. Variations include mild decrease in bone density, as well as more advance forms such as osteitis fibrosa cystica and osteosclerosis[1,3,4].

The bone changes secondary to chronic renal failure are more severe as the patients starts on dialysis[3].

The incidence of bone changes in chronic renal failure can approach 25% in untreated cases. In dialysis patients the bone changes become more severe as the dialysis progresses, and incidence can approach 80-90%. In successful transplantation the visible changes tend to regress[2,5]. A complication of renal transplantation, ischemic necrosis of bone involving several joints, has been reported in a high percentage of cases[3].

In this case the patient had secondary hyperparathyroidism prior to kidney transplant, and we hoped all the biochemical changes would be corrected following transplantation.

Unfortunately, his transplanted kidney was rejected and he continued to have renal failure with a spectrum of renal osteodystrophy, and his transplanted kidney became calcified and non-functioning, a picture seen only in renal tuberculosis before the era of TB antibiotics. Though this term autonephrectomy is not particular to the tuberculous kidney but is often seen in this context. Calcification in failing transplant is not uncommon, however total calcification is quite unusual.

We have reviewed the literature and found no mention of such a complication in transplanted kidneys. However, we tried to rule out the possibility of renal tuberculosis especially in such immunocompromised patients. The ascitic, pleural and pericardial fluid cultures were all negative for acid-fast bacilli. We could not use PCR method of the diagnosis of tuberculosis

We conclude that renal osteodystrophy can lead to diffuse calcification of a transplanted kidney, which is a newly described complication.

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