

HIP FRACTURE IN RENAL FAILURE, WILL ARTHROPLASTY BE A DISASTER

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INTRODUCTION:

Hip replacement surgery for neck of femur fracture in ESRF patients is associated with high complication rates and increase mortality. Secondary hyperparathyroidism is a known sequelae of untreated ESRF, although quite often one may disregard its substantial impact in determining the treatment outcome.

REPORTS:

Case 1- Mr. T, A 28 year-old gentleman with a seven-year history of ESRF on haemodialysis presented bilateral NOF fracture after a fall. Blood investigation revealed raised serum calcium level (3.3mmol/L) and iPTH (2430pg/mL). X-rays demonstrated generalised osteopaenia (Figure 1a). DEXA scan confirmed osteoporosis (T-score -3.7). He underwent urgent parathyroidectomy. Bilateral THR was performed four months later when serum iPTH has reduced remarkably and xays showed bone quality has improved (Figure 1b).

Case 2- Mrs. Z is a 44 year-old lady with ESRF on haemodialysis for two years, who presented with displaced left neck of femur fracture following an MVA. Her calcium level was normal and X-rays showed normal bone quality (Figure 1c). DEXA scan showed mild osteopaenia (T-score of -1.2). She underwent osteosynthesis with screw fixation. Subsequently, hybrid THR was performed one year later for left hip AVN. Unfortunately, she developed progressive left groin pain six years later. Xrays showed generalised osteopaenia with loosened, superiorly migrated cup and radiolucencies of femoral stem (Figure 1d). Blood investigations revealed normal infection markers, with high serum calcium level (3.1mmol/L) and raised iPTH (2170pg/ML). DEXA scan revealed T-score -2.7. Urgent

parathyroidectomy was then performed. She is now waiting for revision THR with mesh and bone grafting.

Mr. T presented with pathological fracture following a trivial trauma, which was a cue to his underlying secondary hyperparathyroidism causing severe osteoporosis. On the other hand, as Mrs. Z's renal disease progressed, she developed secondary hyperparathyroidism, contributing to implant loosening after six years.

CONCLUSIONS:

Before embarking patients with ESRF for THR, it is imperative to diagnose concurrent secondary hyperparathyroidism. Parathyroidectomy improves bone quality hence increases implant survivorship.

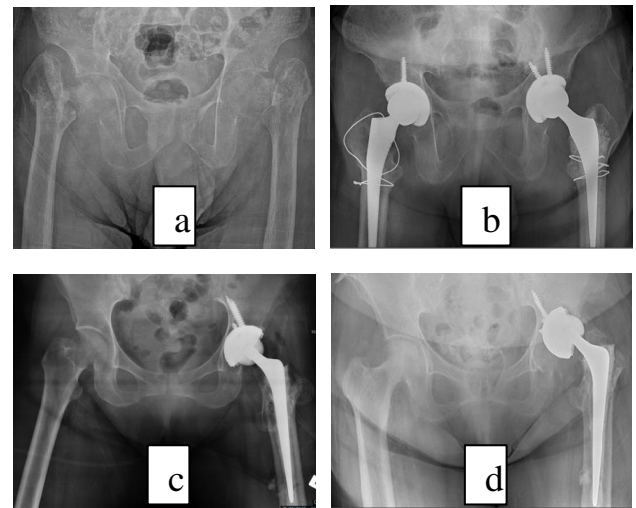


Figure1: X-rays of Mr. T: Pre parathyroidectomy (a) and post THR (b), Mrs. Z: normal parathyroid level (c) and hyperparathyroidism (d)

REFERENCES:

1. Ding BT et.al, Hip hemiarthroplasty for NOF fracture in ESRD, Sing Med J 2019;60:403-408