Severe metastatic calcification in patient with transplanted kidney failure

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CASE REPORT

A 45-year-old man with chronic kidney graft failure was admitted to our hospital for dialysis. He had undergone kidney transplantation at 15 years of age because of unspecified glomerulonephritis. After the transplantation, immunosuppressive therapy was administered and the transplanted kidney function was maintained in a good condition. However, the transplanted kidney failure developed gradually, probably because of chronic rejection. The patient showed general fatigue, poor appetite and marked leg edema.

He underwent hemodialysis on admission to our hospital. His condition improved gradually. However, he had lumbago and had stiffness of the hip. His abdominal computed tomography (CT) scan is shown in Figure 1. Remarkable metastatic calcification was noted around his hips. His laboratory results were as follows: Hb - 7.1 g/dL, serum total protein - 5.2 g/dL, serum albumin - 2.0 g/dL, BUN - 49 mg/dL, Cr - 6.3 mg/dL, Na - 134 mEq/L, K - 4.3 mEq/L, Cl - 103 mEq/L, Ca - 10.2 mg/dL, P - 6.2 mg/dL, ALP - 488 U/L, serum β2-microglobulin - 35.9 µg/mL, CRP - 3.8 mg/dL, intact-PTH - 6 pg/mL. Because serum calcium levels were very elevated, the administration of vitamin D3 [1α, 3α-(5Z, 7E)-isomer 1-hydroxycholecalciferol] was discontinued.

DISCUSSION

Metastatic calcification is usually observed in patients with end-stage renal disease [1]. Generally, they are observed around a joint, soft tissue, vascular wall, lung, and heart, and they often induce acute arthritis, hypertension, hypoxemia and heart failure [1]. Metastatic calcification is associated with the metabolism of phosphate, calcium and parathyroid hormone. Consequently, for successful treatment, controlling the serum levels of phosphate, calcium and parathyroid hormone is very important [2]. The agents we can use as a drug for metastatic calcification are calcium carbonate, sevelamer and etidronate (bisphosphonate) [3].

CONCLUSION

Severe metastatic calcification such as that observed in the present case is very rare, however, we should pay attention to serum level of calcium in patients with end-stage renal disease.

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Figure 1: Severe metastatic calcification around A) hip, and B) vascular wall, in the patient with transplanted kidney failure.

**Author Contributions**
Norio Nakamura – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published
Takeshi Fujita – Conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published
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**Guarantor**
The corresponding author is the guarantor of submission.

**Conflict of Interest**
Authors declare no conflict of interest.

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**REFERENCES**

