

Secondary malignant hypercalcemia with renal failure: a case report

Abstract

The hyperparathyroidism is usually diagnosed at a pauci or asymptomatic stage. However, in rare cases, the diagnosis is made at the stage of major hypercalcemia. We report the case of a 64-year old female addressed to the Department of Endocrinology for a primary hyperparathyroidism without specific family history and with a personal history of type 2 diabetes mellitus known for 14years, high blood pressure and renal lithiasis (surgical treatment for 14years ago without any etiologic exploration). The hyperparathyroidism was diagnosed by the nephrologists after malignant hypercalcemia explorations. The clinical examination showed major signs of hypercalcemia and a voluminous cervical nodule. Biology: PTH> 560pg/mL (dosed twice) with a calcemia >130mg/L, creatinine clearance=24 mL/min. This chronic renal failure has long been considered secondary to a diabetic nephropathy but the chronic renal failure was strongly in favor of an interstitial nephropathy secondary to a chronic hypercalcemia because there was not any diabetic retinopathy. The cervical ultrasound revealed a macro parathyroid nodule (45mm). The patient received an adequate hydration and bisphosphonate treatment (three injections of ibandronic acid) before addressing her for the parathyroid surgery. The treatment of the malignancy hypercalcemia is a real challenge especially in the presence of complications such as the renal failure.

Keywords: malignant hypercalcemia, primary hyperparathyroidy, parathyroid adenoma, renal failure, bisphosphonates

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Introduction

The hyperparathyroidism is usually diagnosed at a pauci or asymptomatic stage. However, in rare cases, the diagnosis is made at the stage of major hypercalcemia. This delay in the diagnosis may be responsible of complications such as renal failure.

Case presentation

We report the case of a 64-year old female addressed to the Department of Endocrinology for a primary hyperparathyroidism without specific family history and with a personal history of type 2 diabetes mellitus known for 14years, high blood pressure and renal lithiasis (surgical treatment for 14years ago without any etiologic exploration). The hyperparathyroidism was diagnosed by the nephrologists after malignant hypercalcemia explorations. The clinical examination showed major signs of hypercalcemia and a voluminous cervical nodule.

Biology: PTH>560pg/mL (dosed twice) with a calcemia>130mg/L, creatinine clearance=24mL/min. This chronic renal failure has long been considered secondary to a diabetic nephropathy but the chronic renal failure was strongly in favor of an interstitial nephropathy secondary to a chronic hypercalcemia because there was not any diabetic retinopathy. The cervical ultrasound showed a macro parathyroid nodule (45mm, (Figure 1). The osteodensitometry revealed an osteoporosis (T Score<-2.5). The patient received an adequate hydration and bisphosphonate treatment (three injections of ibandronic acid) before addressing her for the parathyroid surgery.



Figure 1 Cervical ultrasound: oval, hypoechoic, right parathyroid nodule (45/14mm).

Discussion

The hyperparathyroidism can be diagnosed at a late stage (renal failure and major bone lesions). In our patient, the hyperparathyroidism has long been considered secondary to a diabetic nephropathy but the absence of the diabetic retinopathy made it in favor of an interstitial nephropathy secondary to a chronic hypercalcemia. The bisphosphonates treatment normalized the calcemia to allow the surgical treatment of the parathyroid adenoma. The difficulties to treat a major hypercalcemia have been widely reported. Indeed, Karupiah D used denosumab to normalize a secondary refractory hypercalcemia to parathyroid carcinoma.¹ However, a high proportion

of hypocalcemia with denosumab compared with zoledronic acid has been reported by some authors.^{2,3} Other molecules used to normalize calcemia may be mentioned such as the calcimimetics, the calcitonin, and the octreotide.⁴ The treatment of the malignancy hypercalcemia is a real challenge especially in the presence of complications such as the renal failure.

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Conflict of interest

The author declares no conflict of interest.

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