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CORRESPONDENCE

PTH-Independent Paraneoplastic Hypercalcemia in a Child with Nonmetastatic Renal Ewing Sarcoma

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To the Editor: Malignancy-associated hypercalcemia (MAH) in children is rare and often an uneasy surprise [1]. In this communique, we report a case of MAH in a child with nonmetastatic Ewing sarcoma of the kidney.

A 15-mo-old female child was brought with a left flank mass, accompanied by irritability, intermittent fever, anorexia, and constipation for 2 mo. Examination revealed stage-2 hypertension and an abdominal mass. Computed tomography revealed a solid-cystic renal mass. The corrected serum calcium level was 19 mg/dL (normal: 8.6–10.2 mg/dL). Renal tumor with hypercalcemia raised suspicion of a malignant rhabdoid tumor. Serum parathormone level (iPTH) was suppressed (13.3 pg/mL; normal: 15–65 pg/mL). Serum 25-hydroxyvitamin D level was low (8.4 ng/mL; normal: 11.1–42.9 ng/mL).

Saline diuresis was induced with hyperhydration and oral frusemide. Pharmacotherapy included bisphosphonate (single-dose of intravenous zoledronate 0.05 mg/kg) and intranasal calcitonin spray (200 IU/puff; one puff daily for 2 d). Serum calcium normalized by day 5.

Needle biopsy of the renal tumor confirmed Ewing sarcoma. ^{18}Fluorodeoxyglucose-PET scan did not reveal metastasis. Neoadjuvant chemotherapy was administered, including vincristine, doxorubicin, and cyclophosphamide alternating with ifosfamide and etoposide. Subsequently, the patient underwent a nephrectomy.

MAH is reported at a frequency of 0.5%–1.5% in children [2]. The pathogenic mechanisms include secretion of PTH-related peptide or calcitriol from the tumor or osteolysis from skeletal metastases [2]. Rehydration and swift normalization of serum calcium are therapeutic goals. Bisphosphonates, calcitonin, corticosteroid, and diuretics form the therapeutic armamentarium [2].

The limited literature on MAH in children pertains largely to malignant rhabdoid tumor [3]. MAH secondary to Ewing sarcoma is anecdotally reported, exclusively with metastatic disease [4]. Our case is unique by virtue of the rare location of the Ewing sarcoma and PTH-independent hypercalcemia in the absence of metastatic disease. It is noteworthy that a renal neoplasm in childhood leading to MAH may not necessarily be a rhabdoid tumor.

Declarations

Conflict of Interest None.

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