Metastatic calcinosis cutis in a patient with Hodgkin’s lymphoma
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ABSTRACT
An 18-year-old female with stage IVB classical Hodgkin’s lymphoma of multiple sites, including skeletal lesions, treated with four months of chemotherapy presented to dermatology for evaluation of painful skin lesions. For two months prior to presentation she experienced painful bumps in the axilla, elbows, knees, and buttocks. Examination revealed rock-hard plaques on the axillae and smaller papules and plaques on the elbows, anterior knees, and buttocks. Elevation of the shoulders was limited. Biopsy of these lesions demonstrated epidermal acanthosis, amorphous basophilic material in the dermis, a mild inflammatory reaction, and calcium deposits. Laboratory investigation showed elevated serum phosphorus of 6.1 (normal= 3.9-4.6 mg/dL) and elevated ionized calcium of 1.6 (normal= 1.08-1.34 mM). Normal laboratory tests included creatinine, total serum calcium and PTH, and PTHP.

CASE REPORT
• An 18-year-old female with IVB classical Hodgkin’s Lymphoma of multiple sites, including skeletal lesions, treated with four months of chemotherapy presented to dermatology for evaluation of painful skin lesions.
• For two months prior to presentation she experienced painful bumps in the axillae, elbows, knees, and buttocks. She reported no drainage.

CLINICAL FINDINGS
The physical exam revealed rock-hard plaques in the axillae, measuring 10x4cm (right) and 12x5cm (left) and smaller papules and plaques on the elbows, anterior knees, and buttocks, shown in Figure 1. Elevation of the shoulders was limited.

BIOPSY FINDINGS
Two 4 mm skin punch biopsies of the right elbow and buttocok were done, demonstrating epidermal acanthosis, amorphous basophilic material in the dermis, mild inflammatory reaction, and calcium deposits, consistent with calcinosis cutis shown in Figure 2.

LABORATORY FINDINGS
• Laboratory Data: Laboratory investigation showed elevated serum phosphorus of 6.1 (normal= 3.9-4.6 mg/dL) and elevated ionized calcium of 1.6 (normal= 1.08-1.34 mM). Normal laboratory tests included creatinine, total serum calcium and PTH, and PTHP.
• Imaging: CT scan showed extensive calcification of the axillary subcutaneous soft tissue.

MANAGEMENT/TREATMENT
• The patient was started on diltiazem 180mg daily.
• Plastic Surgery recommended surgery of one extremity at a time with plans for wide local excision and primary closure of the smaller elbow lesions and excision with subsequent skin grafting or a local flap for the larger axillary lesions.
• Prior to planned surgical intervention, she underwent radiation therapy of 21 Gy divided in 14 doses to the liver and mantle field which included lymph node areas in the neck, chest, and axillae.
• After three months on diltiazem and completion of radiation therapy, her calcinosis cutis lesions had decreased appreciably with return of full range of motion of the upper extremities and little ongoing pain, shown in Figure 3. She continued diltiazem, resumed chemotherapy and deferred surgical intervention. She was also prescribed a phosphate binder.

DISCUSSION
The etiology of calcinosis cutis in this patient with Hodgkin’s lymphoma is likely multifactorial.
• Her calcinosis cutis is primarily metastatic driven by inappropriate calcium metabolism in the setting of osteolytic skeletal metastases.
• Additionally, tumor lysis syndrome in the setting of chemotherapy may have been an additional driver of calcium dysregulation.
• Of note, her labs demonstrate no evidence of hyperparathyroidism, pseudohyperparathyroidism, or ectopic calcitriol production.

REFERENCES

Figure 1. Clinical findings
(A) Left axilla demonstrating rock-hard indurated plaque with rim of comedo-like openings.
(B) Right elbow demonstrating small hyperpigmented hard plaque with focal hard papules.

Figure 2. Histopathologic examination
(A) H&E stain of elbow site biopsy shows epidermal acanthosis, amorphous basophilic material in the dermis, a mild inflammatory reaction, and calcium deposits.
(B) Von Kossa stain highlights dermal calcium.