The mapping biopsy procedure to determine an adequate surgical margin has been performed in cases of malignant neoplasm such as extramammary Paget disease. We propose that if administration of recommended antibiotics for an adequate duration proves ineffective, the preoperative mapping biopsy procedure might be used to determine the extent of surgical excision in Buruli ulcer and to avoid unnecessary resection if pathologic services are available.

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Severe Nonuremic Calciphylaxis Due to Hyperphosphatemia Resolving With Multimodality Treatment Including Phosphate Binders

Calciphylaxis is a highly morbid disease with a 1-year mortality of approximately 80% that is usually associated with kidney disease. We report a case of nonuremic calciphylaxis in the setting of hyperphosphatemia that improved dramatically with phosphate binders and supportive care.

Report of a Case | A white woman approximately 60 years old presented with numerous painful subcutaneous plaques and cutaneous necrosis, ulceration, and eschars on her hips, thighs, buttocks, abdomen, and breasts. She had a history of diabetes mellitus, congestive heart failure, tobacco abuse (half-pack of cigarettes daily), and endocarditis with artificial aortic valve replacement 7 years previously, requiring long-term warfarin treatment. Additional medications included aspirin, atorvastatin, furosemide, glimepiride, lisinopril, and metoprolol.

Her physical examination was remarkable for obesity (BMI, 32.3 [calculated as weight in kilograms divided by height in meters squared]) with firm, painful subcutaneous plaques on the lateral hips, thighs, buttocks, breasts, and abdomen. Overlying the plaques were large, angulated ulcerations with firm adherent black eschars and peripheral dusky erythema (Figure 1A and B). Histopathologic analysis confirmed the diagnosis of calciphylaxis (Figure 2).

The patient had no history of renal dysfunction, but her serum phosphorus level was elevated, at 5.3 mg/dL (normal, 2.4-4.7 mg/dL). (To convert serum phosphorus to millimoles per liter, multiply by 0.179.) Findings from a complete blood count, comprehensive metabolic panel, extended antiphospholipid antibody panel, and assays for parathyroid hormone, vitamin D levels, protein C, and protein S were normal, with the exception of a hemoglobin level of 10.4 g/dL (normal, 12.0-16.0 g/dL). (To convert hemoglobin to grams per liter, multiply by 10.0.) Her prothrombin time and international normalized ratio were appropriate for valvular anticoagulation and had been stable for years. Her hyperphosphatemia in the absence of kidney disease prompted testing for fibroblast growth factor 23 (FGF23) level, which was elevated. Additionally, iron studies demonstrated iron deficiency, at 20 μg/dL (normal range, 28-170 μg/dL). (To convert iron to micromoles per liter, multiply by 0.179.)

Multimodality therapy was instituted, consisting of sevelamer, 800 mg, 3 times daily as a phosphate binder; hyperbaric oxygen, 6 days per week for 10 weeks; oral alendronate, 10 mg/d; and local care with topical collagenase and petrolatum dressings. After 2 months of these therapies, the patient had significant clinical improvement. Warfarin was replaced with dabigatran etexilate owing to reports of warfarin-associated calciphylaxis. The patient was counseled about tobacco cessation and quit smoking over 3 months. Surgical debridement was considered but ultimately avoided due to significant, continued clinical improvement (Figure 1C and D).

Discussion | Calciphylaxis most commonly occurs in the setting of end-stage renal disease and an elevated calcium-phosphate level. However, calciphylaxis in the absence of renal impairment has been described in the setting of obesity; liver disease; elevated calcium-phosphorus, phosphorus, and alkaline phosphatase; decreased albumin; diabetes; and treatment with systemic corticosteroids and warfarin. It has most commonly been described in white women.

Our patient’s risk factors for calciphylaxis included smoking, obesity, ethnicity, elevated phosphorus levels, and potentially warfarin treatment. She had substantial clinical improvement with multimodality therapy, with the most specific targeted intervention being treatment with phosphate bind-
ers, which normalized her serum phosphorus level. Although smoking cessation and removing warfarin from her drug regimen also may have played a role, she had significant clinical improvement prior to instituting those therapeutic changes.

Notably, our patient also had an increased level of FGF23, which is a bone-derived phosphate and vitamin D-regulating hormone that can be elevated in genetic hypophosphatemic disorders, hyperphosphatemia, and iron deficiency anemia.4-6 As a counter-regulator of phosphorus homeostasis, elevated FGF23 levels can impact bone homeostasis, leading to elevated phosphorus. Recent data have demonstrated that administration of iron may decrease FGF23 levels and help restore this balance, especially in patients with end-stage renal disease.5 To help decrease FGF23 levels, our patient received intravenous iron, though her clinical lesions had improved prior to this intervention.

Although no definitive treatment of calciphylaxis exists, sodium thiosulfate, surgical debridement, hyperbaric oxygen, cinacalcet, bisphosphonates, and thrombolytic agents have been reported to lead to clinical improvement.2 Because of the significant morbidity and mortality risk, our patient was treated with multiple interventions to help prevent disease progression. We attribute her dramatic clinical improvement primarily to the initial therapy of phosphate binders with normalization of serum phosphate levels, wound care, and hyperbaric oxygen, although all interventions were important to address her risk factors for calciphylaxis. This case highlights the important relationship of non-uremic calciphylaxis, hyperphosphatemia, FGF23, and the importance of multimodality treatment for this debilitating disease.

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Exaggerated Earlobe Ptosis Due to Habitual Ear Pulling

A certain degree of ear drooping, known as earlobe ptosis, occurs with normal aging of the skin. We report the case of a woman with exaggerated earlobe ptosis due to habitually pulling the earlobes.

Report of a Case | A woman in her 90s presented with considerable drooping of the earlobes. On examination, the patient appeared well. The bilateral earlobes demonstrated thinning and elongation, also known as earlobe ptosis (Figure, A and B). After further questioning, she reported a habit of pulling at her earlobes. She stated that she initially pulled at them to relieve anxiety (Figure, C), but it eventually became a chronic behavior. After being advised that her behavior was likely the cause of her ptosis, she was able to discontinue it. She was not concerned cosmetically enough to accept corrective treatments when offered.

Discussion | Ptosis, or drooping of the earlobe, is defined as a lobe greater than 25% of the total ear length. The normal length of ear lobules, or the distance from the antitragus to the inferiormost edge of the auricle, has been found to vary from 1.5 to 2.0 cm in studies of both adults and children. The ear lobe, while it lacks cartilage, is composed of a large blood supply, many nerve endings, and adipose tissue. With normal aging, cumulative gravitational forces and the loss of tissue elasticity likely contribute to some amount of ptosis. This increase in total ear length with aging occurs due to lengthening of both the lobule and the cartilaginous parts of the ear. While a degree of our patient's earlobe ptosis may be attributed to the effects of aging, it was clearly exaggerated by her repetitive earlobe-pulling behavior. We considered proposing the eponym the Carol Burnett sign in homage to the comedienne who would tug her left earlobe at the end of each episode of “The Carol Burnett Show.”

Even though our patient declined intervention for her ptosis, treatment options exist and are typically used in patients undergoing a face-lift who continue to show signs of aging due to earlobe ptosis. Correction should be considered for aesthetic reasons when the lobule is greater than 33% of the total ear length or when the free margin of the lobule measures greater than 5 mm (ideal length is 1-5 mm). Treatment may be approached with either surgical correction of lobular height or rejuvenation with dermal filler, in particular hyaluronic acid products.

The earlobe ptosis in our patient was most likely attributable to normal aging with exacerbation due to her traumatic skin behaviors. Although she declined restorative treatment,