Calciphylaxis: utility of skin biopsy within a diagnostic algorithm

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Keywords: algorithm, biopsy, calciphylaxis, clinical, diagnostic

To the Editor:

We read with interest the recent submission entitled "Calciphylaxis: How specific are the pathological features? Avoiding false-positives and false-negatives." Although that work contributes significantly to our understanding of the pathologic findings (and ambiguity) of calciphylaxis, this letter seeks to appropriately place skin biopsy within a usual clinical diagnostic algorithm utilized in our practice.

As aptly mentioned within the commentary, cutaneous biopsies are often considered the gold standard for definitive diagnosis of calciphylaxis. However, skin biopsies are seldom, if rarely, necessary. If there is high clinical suspicion for calciphylaxis, namely exquisitely tender ischemic lesions or hardened nodules in the setting of end stage renal disease, we recommend initial evaluation with laboratory and imaging studies. In our experience, these are sufficient for diagnosis and negate the need for cutaneous biopsy, which may be hazardous in these patients.

When evaluating these patients on our inpatient consult service, we begin with a thorough history and physical examination with palpation of suspicious lesions remaining paramount. This is often sufficient for preliminary diagnosis of calciphylaxis, with further workup used only for confirmatory purposes. In addition to the usual initial biochemical and hypercoagulable workup, we recommend appropriate body imaging. We typically utilize three-phase technetium 99m methylene diphosphate bone scans which have shown a high degree of utility in identifying calcified lesions with sensitivities ranging from 89%-97% and specificities around 97% [1-3]. In our practice, these bone scans also have efficacy in early diagnosis, in monitoring response to treatment, and for cases in which biopsy results are equivocal. If uncertainty remains after bone scan, we recommend follow-up CT, which has shown effectiveness in detecting tissue calcifications as well [4,5].

Undoubtedly, skin biopsy may be helpful in challenging cases such as those with atypical lesions, in the absence of end stage renal disease, or if another diagnosis is suspected. Though, as demonstrated in the commentary, histologic diagnosis is often challenging and is not definitive. Multiple biopsies may be required. In addition, cutaneous biopsies are not without risk in the setting of calciphylaxis. Albeit in rare cases, cutaneous biopsies have been known to exacerbate pain, precipitate new lesions, result in uncontrolled bleeding, introduce superinfection, and induce necrosis [6]. In summary, we recommend against the routine use of cutaneous biopsy in classic calciphylaxis cases.

Potential conflicts of interest

The authors declare no conflicts of interest.

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