Transillumination for Improved Diagnosis of Digital Myxoid Cysts

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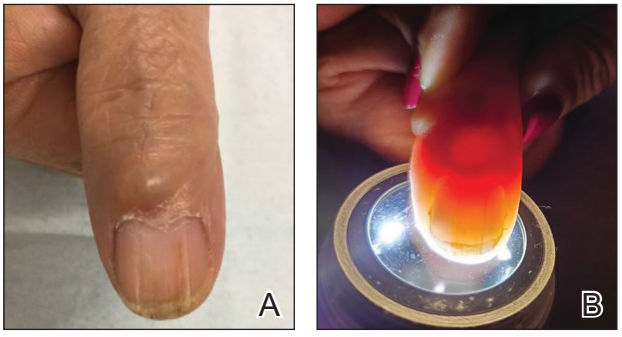
Practice Gap

Myxoid cysts are among the most common space-occupying lesions involving the nail unit. Their etiology has not been fully elucidated, but these cysts likely form due to leakage of synovial fluid following trauma or chronic wear and tear. They are highly associated with osteoarthritis and typically are found in close proximity to the distal interphalangeal joints.[1] Myxoid cysts often extend into the eponychium, where mechanical stress on the nail matrix may lead to nail dystrophy, most commonly resulting in a longitudinal groove in the nail plate (Figure, A). The presence of multiple myxoid cysts is not uncommon. Differentiation of this lesion from other nodules of the digits, including epidermoid cysts, acquired digital fibrokeratomas, and giant cell tendon sheath tumors often is challenging without a biopsy.



A, A translucent compressible nodule of the proximal nail fold and longitudinal groove in the nail plate of the right thumb. B, Transillumination using a dermatoscope to project light from the dorsal digit through the nail unit demonstrated a central nodule in the proximal nail fold as well as a second cyst radially.

Technique

The normal nail unit transmits light to some extent, and masses may be identified by how easily they transmit light relative to the adjacent skin. Solid tumors of the nail unit, such as acquired digital fibrokeratomas and giant cell tendon sheath tumors, will not transmit light, while myxoid cysts transmit light easily. A dermatoscope can be used to project light from the dorsal digit through the nail unit. The area occupied by the myxoid cyst will appear bright compared to the surrounding skin (Figure, B). Drainage of the lesion using an 18-gauge needle yielded a clear jellylike fluid that was consistent with a myxoid cyst. This technique aids in localizing and characterizing the myxoid cyst for treatment or drainage. Physician assessment of transillumination has been shown to demonstrate clinical accuracy and high intraobserver reliability in differentiating between cystic and solid tumors.[2]

Practice Implications

Transillumination is a valuable technique that may aid dermatologists in both the diagnosis and subsequent treatment of myxoid cysts. Location is important to consider when choosing a treatment option. Although lower recurrence rates are achieved with nail surgery, permanent nail dystrophy is likely when cysts are in close proximity to the nail matrix.[3] When multiple cysts are present, only the largest may be apparent. Transillumination can guide the physician in achieving more accurate and thorough drainage of the cyst contents, negating the need for more costly imaging modalities. Dermatologists may utilize transillumination as a rapid and economical diagnostic method for space-occupying lesions involving the nail unit.

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The authors report no conflict of interest.

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