Methylene blue for surgical excision of digital myxoid cysts after sonography: Addressing the challenge of identifying the drainage tract

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CLINICAL CHALLENGE

Digital mucous cysts are benign pseudocysts that frequently present as solitary lesions on the proximal nail folds, arising from the joint capsule and typically containing clear fluid. Although several therapeutic options exist for digital mucous cysts, the recurrence rate is high, and surgical excision remains the most effective choice[1].

Nevertheless, the use of ultrasound could assist in the identification of the drainage tract of the cyst within the joint (Fig 1, *A*).

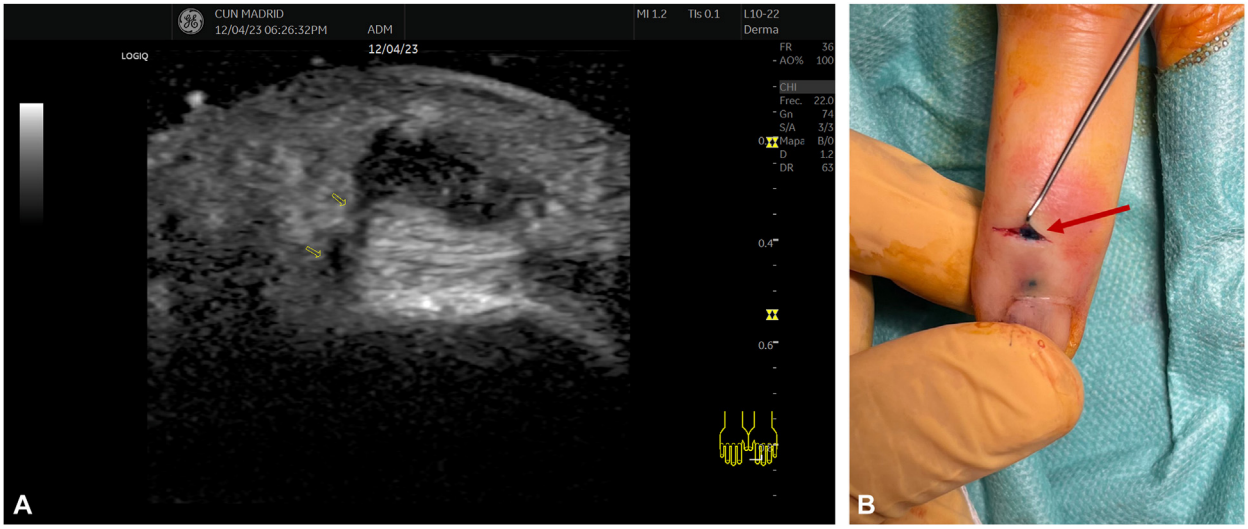

Fig 1. A, Ultrasound visualization of digital mucous cysts and the drainage tract of the cyst in the joint (*arrows*). **B,** Intralesional injection of methylene blue into the cyst (*arrow*: showing drainage area of the cyst in the joint).

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SOLUTION

We propose a technique that involves the combined use of sonography and methylene blue injection to enhance the visualization of the tract. Methylene blue is a safe and inexpensive dye with established utility in medical procedures for its tissue and fluid staining properties.[2]

Based on our experience, the use of ultrasound can help identify the tract's precise location and facilitate the injection of a minimal volume of methylene blue into the cyst using a 30G cannulate, resulting in visualization of the tract during surgery[3] (Fig 1, *B*). This enables precise electrocoagulation (up to 20 watts) of the cyst's drainage point at the joint level. The simultaneous implementation of these 2 techniques may serve to optimize surgical outcomes and minimize the rate of recurrence, ultimately refining the management of this prevalent pathology.

Conflicts of interest

None disclosed.

REFERENCES

1. Jabbour S, Kechichian E, Haber R, Tomb R, Nasr M. Management of digital mucous cysts: a systematic review and treatment algorithm. *Int J Dermatol*. 2017;56(7):701-708. https://doi.org/10.1111/ijd.13583
2. Prosst RL, Reinecke F, Geginat G. Methylene blue in the evaluation of gastrointestinal tract integrity: potential limitations. *Eur Surg Res*. 2005;37:246-249. https://doi.org/10.1159/000087871
3. Pasch M, Haneke E, Baran R, Thomas L, Richert B. Tumors of the nail apparatus and adjacent tissues. In: *Baran & Dawber's Diseases of the Nails and their Management*. 5th ed. John Wiley & Sons; 2019:759-764. https://doi.org/10.1002/9781118286715