

The Groove Sign

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Clinical Information

A 74-year-old patient initially presented with rapid onset of bilateral leg swelling, leukocytosis (monocytosis and eosinophilia), hand arthritis, elevated inflammatory markers, and 20% weight loss. Extensive workup, including a bone marrow biopsy, did not show evidence of malignancy. The patient was evaluated many months after initiation of symptoms and found to have deep hardening skin and multiple joint contractures. Pictures of his forearms are shown above.

A full-thickness biopsy was done, demonstrating a lymphocytic-eosinophilic infiltrate in the deep reticular dermis and superficial fascia. The fascia showed thickening and fibrosing features. Those findings were compatible with Eosinophilic fasciitis.¹

Eosinophilic fasciitis is an uncommon cutaneous fibro-inflammatory disorder that can lead to significant joint contractures, pain, and inflammatory arthritis.^{1,2} Early diagnosis and treatment are important to prevent disability. Corticosteroids are the cornerstone for eosinophilic fasciitis. However, in severe cases, such as the one presented here, steroid-sparing agents are needed.²⁻⁴ This patient was treated with pulse dose IV steroids and Mycophenolate 1,500 mg twice a day (BID), which softened the skin, decreased the affected body surface area, and improved his joint range of motion.

The groove sign consists of a depression along the course of the superficial veins. It is a characteristic clinical finding of eosinophilic fasciitis, and it is observed in more than 50% of the cases.² It is caused by fibrosis of the deep dermal layers. Since the involvement of more superficial layers of the dermis and epidermis is a late finding, the groove sign can be only evident after limb elevation, causing a drop in peripheral venous pressure, as illustrated in Figure 1A (left arm resting) vs. Figure 1B (arm lifted by the examiner). Recognition of this sign can contribute to an early diagnosis of this condition.

Data Availability Statement: The data that support the findings of this study are available on request from the corresponding author.

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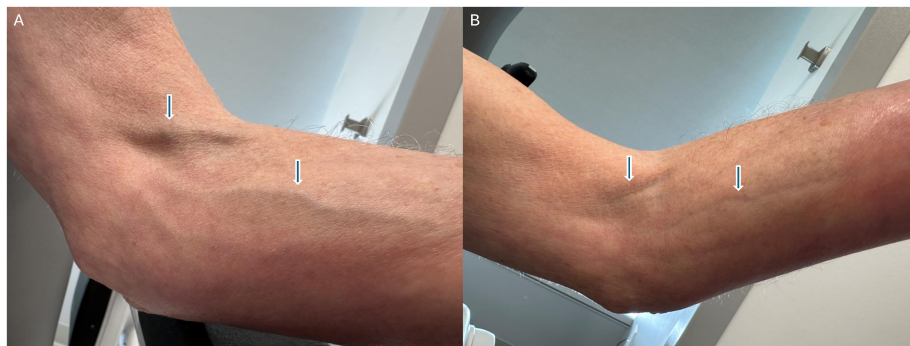


Figure 1. The patient's arm in resting position (A) and after limb elevation (B) is shown in this figure. An evident vein depression under the skin level (groove sign) is evident only after elevating the arm, causing a drop in peripheral venous pressure (B).

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