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Leg Pain Revealing Sarcoidosis

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Abstract **Case Report**

Sarcoidosis is a systemic granulomatous disorder of an unknown origin. Small fiber neuropathy is the most common neurological complication, and is considered to be the result of chronic inflammation It remains significantly understudied. We report a case of sarcoidosis revealed by chronic leg pain attributed to small fiber neuropathy.
Keywords: Sarcoidosis; polyneuropathy; small fiber neuropathy.

INTRODUCTION

Small fiber neuropathy (SFN) is one of the most common complications of sarcoidosis that remains significantly understudied [1]. The development of SFN is considered to be the result of cytokine-mediated inflammation, which is typical for various autoimmune diseases, including sarcoidosis [2]. We report a case of sarcoidosis revealed by chronic leg pain.

CASE REPORT

A 31-year-old patient with no significant past medical history, presented with a 2 months history of leg pain described as burning and electric shock.

Upon examination,the patient mentioned xeros tomia and xerophthalmia. Eye examination showed bilateral superficial punctate keratitis, with 10/10 vision.

The patient underwent electromyography, X-ray, and venous doppler both lower limb. The results were normal.

The laboratory findings showed an inflammatory biological syndrome: C-reactive protein was at 70 mg/l, the erythrocyte sedimentation at 108 mm, and hyperferritinemia at 300 µg/l.

The creatine phosphokinase (CPK) was normal (54 u/l). The patient was negative for antinuclear antibodies, anti-SSA, anti-SSB, and antineutrophil cytoplasmic antibodies.

Urea was at 0,4 mg/dl and creatinine was at 13,9 mg/l, while blood and urinary electrolytes were normal. Ultrasound showed normal renal length. A kidney biopsy was thus performed, and showed chronic tubulointerstitial nephritis, with no amyloid deposits and no granuloma.

The CT scan demonstrated nonspecific pulmonary nodules, with bilateral inguinal and axillary lymphadenopathy (9mm).

The salivary gland biopsy showed epithelioid cell granuloma without caseous necrosis. The Angiotensin-converting enzyme was high at 130 u/l, while tuberculosis assessment was normal.

The diagnosis of sarcoidosis was made based on the presence of pulmonary nodules, lymphadenopathy, ocular and renal involvement. Lower limb pain has been attributed to small fiber neuropathy.

The patient was treated with oral corticosteroids 1 mg /kg/day for 6 weeks, followed by a gradual taper.

The one-year follow-up showed limb pain relief, and normalization of the kidney function and inflammatory parameters.

DISCUSSION

Neuropathic pain is frequently reported in patients with sarcoidosis. Chronic pain is one of the most commonly reported symptoms among patients with sarcoidosis [3,4]. Up to 30% of patients with sarcoidosis were complaining of burning feet , in one study, due to SFN in nearly a third of these cases [2]. Thus, SFN is now considered as a potential source of pain in the

evaluation of patients with sarcoidosis. Many patients, as seen in our case, suffer from symptoms a long time before the diagnosis of sarcoidosis.

The term small-fiber neuropathy (SFN) refers to the type of polyneuropathies that damage the small unmyelinated and thinly myelinated sensory or autonomic neurons [5].

To date, there are no accepted criteria for the diagnosis of SFN. Electromyography do not capture the small scattered action potentials of small fibers, and thus are insensitive to small-fiber restricted neuropathies [6].

The "gold standard" for diagnosis is the immunofluorescence or immunohistochemistry of a skin biopsy that determines the epidermal nerve-fiber density [7]. Although, This technique is time consuming and requires special training [8].

The management of SFN is challenging, since the pain may be disabling despite aggressive symptomatic neuropathic pain treatment, and immunosuppressive drugs. Unlike our case, steroids don't appear beneficial in sarcoidosis-related SFNI. However, IVIG and anti-TNF showed good results [9].

CONCLUSION

SFN presents with peripheral pain and symptoms of autonomic dysfunction. Clinicians should maintain a high index of suspicion for SFN in patients with sarcoidosis, since it impacts significantly patient's quality of life.

Take home messages

- Small-fiber neuropathy is a chronic disabling manifestation of sarcoidosis.
- SFN has a high impact on the quality of life.
- Nerve conduction studies are generally normal in SFN.
- Skin biopsy is the gold standard for diagnosis.

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