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Sensorimotor Polyneuropathy as the Initial Presentation of Sarcoidosis: A Case Report of a Rare Manifestation



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Introduction

- Sarcoidosis is a multisystem inflammatory disease, characterized by noncaseating granulomas, the pathologic hallmark of the disease.
- Extrapulmonary manifestations involving the skin, ophthalmologic, gastrointestinal and cardiovascular systems can develop in 30-50% of sarcoidosis patients.
- Neurosarcoidosis is a rare variant.
- We report a unique case of a 42-year-old female with progressively worsening bilateral lower extremity weakness, who was diagnosed with peripheral neuropathy secondary to sarcoidosis.

Background

Case

- 42-year-old Caucasian female with a past medical history of diabetes mellitus type 2 presented with a six month history of progressively worsening bilateral lower extremity weakness.
- She also reported mild upper extremity weakness, numbness, tingling and a unilateral left-sided facial weakness.
- Physical examination demonstrated a left-sided facial droop and ptosis of the left eye. Muscle tone, power and sensations were decreased in the bilateral lower extremities. Reflexes were absent in both upper and lower extremities

Investigations

- CT Brain was negative, however chest x-ray showed bilateral hilar adenopathy.
- Cerebrospinal fluid (CSF) studies revealed an elevated protein of 316 mg/dL with an elevation in WBC of 70 WBC/uL with predominant lymphocytes with negative VDRL and West Nile serology.
- Electromyography studies showed mixed axonal polyneuropathy with no patchy demyelination.
- Bronchoscopic biopsy of the mediastinal tracheobronchial lymph nodes showed non caseating granulomas, consistent with sarcoidosis.

Hospital Course

- Patient was started on oral Prednisone 60 mg daily.
- Within three days, she reported moderate improvement in her symptoms.
- She was continued on Prednisone 60 mg oral daily for one month, with a gradual taper of 5 mg per month.
- She was followed up for 2 months and was doing well on maintenance dose steroids of 10 mg/day and physical therapy.

Chest X-ray



Figure: 1
Chest X-ray showing bilateral hilar lymphadenopathy

Discussion

- Peripheral neuropathy is a rare manifestation of sarcoidosis, with a prevalence of approximately 5-15% among patients with known sarcoidosis.
- Isolated neurosarcoidosis occurs in less than 1% of patients, in which patients often do not show any other signs of extra neural involvement.
- Peripheral neuropathy in sarcoidosis can have varied presentations, including distal symmetric polyneuropathy, focal or multifocal neuropathy and mononeuritis multiplex.
- The pathophysiology is believed to be the activation of inflammatory cells, which release toxic secretory products that cause local tissue inflammation.
- The diagnosis is confirmed if presence of neurosarcoidosis occurs together with the histopathologic or clinical evidence. Histopathological evidence of noncaseating granulomatous inflammation from neural tissue is the hallmark of definite diagnosis.
- Spontaneous remission can occur within six months, however this is a very rare occurrence. Immunosuppression is the hallmark of therapy and corticosteroids are the mainstay of treatment.

Conclusion

- The purpose of our case is to shed light on the rare manifestations of neurosarcoidosis, and the need for further research to develop more effective diagnostic and therapeutic strategies.
- Although challenging, a high index of suspicion is required to properly diagnose and treat these rare presentations of this common disease, in order to prevent morbidity associated with sarcoidosis.

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