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BMH Med. J. 2024;11(3):49-51. **Case Report**

Eosinophilic Enigma: Deciphering Intriguing Symptomatology and Treatment Challenges in Atypical Lumbosacral Radiculopathy

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Abstract

Eosinophilic meningitis is a rare but fascinating neurological condition characterized by eosinophilic infiltration of the meninges. We present a compelling case of a woman with a history of dust allergy who presented with myalgia, low backache, and persistent headache, ultimately diagnosed with eosinophilic meningitis. Despite initial challenges in diagnosis and treatment, a multidisciplinary approach involving, neurology, and infectious disease specialists led to successful management and resolution of symptoms. This case underscores the importance of considering unusual etiologies in patients presenting with neurological symptoms, particularly in the context of atypical clinical presentations.

Introduction

Lumbosacral radiculopathy, although typically associated with classical symptoms such as low back ache with radiation to the legs, reflex changes, sensory impairment and worsening of pain with cough and strain can rarely present as an atypical manifestation of meningitis that pose a diagnostic challenge [1-5]. This article aims to explore the uncommon presentation of eosinphilic menigitis, shedding light on the varied clinical scenarios clinicians may encounter, thus emphasizing the importance of a comprehensive diagnostic approach in suspected cases.

Case Presentation

A woman with a history of dust allergy presented with myalgia, severe low backache which was radiating down the left leg. She also had severe and persistent headache with features of raised intracranial pressure. She had a pain score of 10/10. Her SLR test was positive on the left side and had impairment of sensation in the left L5 radicular distribution. MRI lumboscaral spine, however was normal and nerve conduction study was also normal. Initial investigations revealed anemia, elevated blood pressure, and eosinophilia. MRI brain showed meningeal enhancement. Despite empirical treatment with analgesics and steroids, her symptoms worsened, prompting referral to our hospital. Further evaluation, including cerebrospinal fluid analysis, raised suspicion for eosinophilic meningitis. A history of exotic food consumption provided a clue to the potential etiology, leading

to targeted therapy with steroids, antihelminthics, and supportive measures. Following initial improvement, the patient experienced recurrence of symptoms, necessitating re-admission and reassessment. Repeat CSF analysis (**Figure 1**) confirmed the diagnosis of eosinophilic meningitis, prompting intensified steroid therapy and eventual resolution of symptoms.

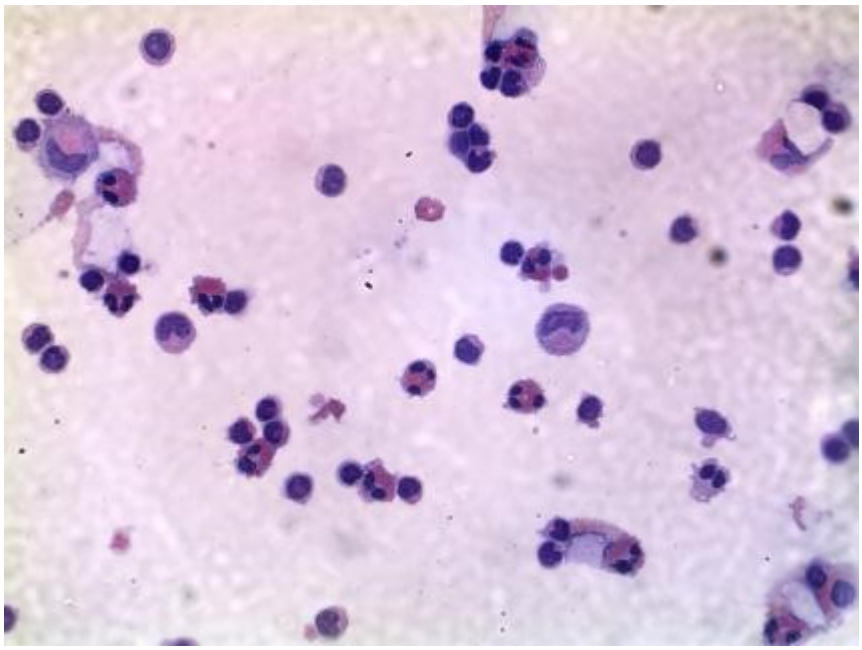

Figure 1: CSF Study

Discussion

Atypical manifestations encompass a spectrum of neurological symptoms beyond the typical presentations [2]. Ataxia involves impaired coordination and balance often resulting in jerky movements [2,4]. Cranial nerve palsy refers to weakness or paralysis of one or more of the twelve cranial nerves, impacting functions such as eye movement, facial sensation and swallowing. This case illustrates the diagnostic complexity and therapeutic challenges associated with eosinophilic meningitis. The atypical clinical presentation of lumbosacral radiculopathy and raised ICP coupled with the absence of typical risk factors, underscores the importance of maintaining a broad differential diagnosis and considering less common etiologies. Collaboration between diverse medical specialties facilitated comprehensive evaluation and tailored management, resulting in favorable outcome for the patient. These manifestations can arise from various neurological conditions necessitating thorough evaluation and management by health-care professionals.

Conclusion

Eosinophilic meningitis presents a diagnostic conundrum, particularly in cases with atypical presentations as in this case presenting with atypical lumbosacral meningitis. This case underscores the significance of thorough clinical evaluation, multidisciplinary collaboration, and consideration of unusual etiologies in achieving accurate diagnosis and effective treatment of eosinophilic meningitis. Further research is warranted to elucidate the underlying mechanisms and optimize therapeutic strategies for this intriguing neurological disorder.

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