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Dysphagia due to Isolated low cranial nerve palsy in Lyme disease : a case report

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Introduction

Lyme disease(Lyme borrelia) is a tick-borne infectious multi-system disease that is caused by an infection with the spirochete Borrelia burgdorferi sensu lato.
The most frequent clinical manifestation was Erythema migrans (80-90%), next most common symptom was acute Lyme neuroborreliosis (3.3%). Lyme neuroborreliosis includes meningitis, cranial nerve deficit (especially facial nerve), and painful radiculitis.
We present a case of a patient with dysphagia due to Lyme disease as a rare manifestation of neuroborreliosis with a review of the literature.

CASE REPORT

A 63-year-old man was admitted to an external secondary care hospital due to bilateral hearing loss, left facial palsy and pain. Both Chronic Otitis media was discovered, and left ventilation tube insertion was performed and antiviral agent(acyclovir) was administered, but symptoms did not improve.

The patient was discharged home, but the symptoms continued without improvement and left vocal cord paralysis also occurred, so he was admitted to the hospital again. Nasogastric tube was inserted for vocal cord paralysis due to the risk of aspiration.

CT scan of temporal bone showed that otitis media was improving, but pachymeningitis was suspected due to the thickening and high signal of the left middle fossa dura seen on temporal bone MRI(Figure 1.). Cerebrospinal fluid test was normal and blood test was performed to distinguish related disease, neurosarcoidosis, rheumatoid and infectious cause including tuberculosis and lyme disease.

To treat pachymeningitis, antibiotics that can cover pseudomonas and MRSA were used and Vide ofluoro swallowing study (VFSS) test (Figure 2.)was performed, but aspiration was seen in the liquid and maximal residue in pyriformis sinus remained after swallowing.

After rehabilitation treatment and rTMS, VFSS test performed again and showed decreased pharyngeal contraction and aspiration, similar to the previous test. Therefore, we maintained the patient's nasogastric tube insertion, but on the day the patient was discharged home, the Lyme disease test performed on the first day of hospitalization was confirmed to be an inconclusive finding(IgG 1:32, IgM 1:16).

After discharge, the patient was admitted as an outpatient with the main department and infectious disease department. When the patient revisits the outpatient clinic, we decided to re-examine Lyme disease and administer doxycycline known treatment for Lyme disease.

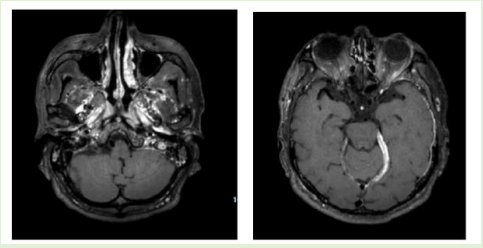

Figure 1.MRI was shown asymmetric enhancement left labyrinthine, geniculate ganglion and mastoid segment of left facial nerve and dural enhancement at both middle cranial fossa

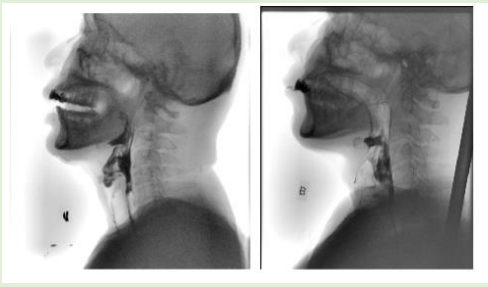

Figure 2.VFSS performed at initial (A) and 2 wees after (B) showed the aspiration and moderate to maximal residue at the vallecula and pyriform sinus.

CONCLUSION

Pachymeningitis is an inflammation of the spinal or cranial dura, which can be associated with dural hypertrophy. Clinical features include headache, cranial neuropathies, paresis or ataxia.
Inflammatory causes of pachymeningtis include sarcoidosis systemic lupus erythematosus and IgG4-related disease. Other causes include infections such as tuberculosis, syphilis, fungal infections and Lyme disease.
In diagnosing a patient with dysphagia, the possibility of neuroborreliosis would have been considered for proper treatment. Our case report may be helpful for understanding and diagnosis of unknown dysphagia.