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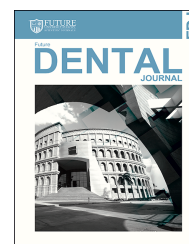
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Temporary unilateral hypoglossal nerve palsy secondary to infectious mononucleosis: A case report



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ABSTRACT

Tongue paralysis due to isolated palsy of XII cranial nerve is uncommon neurological finding. It is a multi-etiological condition, and may occur secondary to infectious mononucleosis. It is presented with characteristic signs e.g. reduced tongue movements with deviation to the affected side on protrusion. The diagnosis is challenging and based on thorough clinical examination and laboratory and imaging findings. A case of 31year old Kuwaiti male, presented to emergency room at Mubarak Alkabeer Hospital-Kuwait, with infectious mononucleosis complicated with temporary unilateral hypoglossal nerve palsy is reported, with an emphasis that paralysis of cranial nerve may be due to a less severe systemic condition, and not necessarily associate an underlying malignancy. To the best of our knowledge, hypoglossal nerve palsy complicating infectious mononucleosis has never been previously reported in Kuwait.

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1. Introduction

Infectious mononucleosis (IM) or mononucleosis syndrome is a common usually self-limited infection specifically caused by Epstein–Barr virus (EBV). It occurs only in humans - frequently in childhood and adolescence-resulting in a life-long infection. The transmission of EBV is principally through exposure to infected saliva, hence, it is called “kissing disease”. It is routinely characterized by fever, sore throat, fatigue and cervical lymphadenopathy, but may present with severe manifestations and complications e.g. aplastic anemia, hepato and/or splenomegaly. Splenic rupture may occur and

end fatally. Fortunately these complications are uncommon [1]. Neurological manifestations are infrequent in infectious mononucleosis and may include meningitis, encephalitis, peripheral neuropathy, but isolated hypoglossal nerve palsy (IHNP) is rarely reported [2]. A literature review revealed that in most cases, IHNP indicates the presence of an intra/extracranial space occupying lesion, vascular abnormality, head and neck injury/surgery, infectious process such as infectious mononucleosis, radiation, vertebral dislocation, autoimmune disease, traumatic orotracheal intubation or idiopathic. Clinically, patient may present with lingual dysarthria, atrophy and fasciculation of tongue musculature with deviation of the

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tongue to ipsilateral side on protrusion, due to unopposed action of the contra-side [3–5]. In this case report, we present a patient with left hypoglossal nerve palsy due to infectious mononucleosis, with an excellent outcome, after conservative treatment.

2. Case report

A 31-year old previously healthy male presented with 10 days history of upper respiratory tract infection –developed after dental procedure-not responding to oral antibiotics prescribed by his general practitioner. The patient looked ill complaining of sore throat with difficulty of swallowing, head ache and malaise.

Upon physical examination, there was bilateral cervical lymphadenopathy, temperature was 38.7 C, while blood pressure was 150/81. Examination of the oral cavity revealed congested throat and enlarged tonsils with exudates. Neurological assessment didn't reveal any acute issue except for the deviation of tongue towards the left side upon protrusion, but no atrophy nor fasciculation (Fig. 1).

Both orthopantomogram and chest x-ray were unremarkable. A CT scanning of brain and cervical spine did not reveal any brain tumor nor ischemic lesion, but enlarged cervical lymph nodes and engorged tonsils. A FNA sample was collected from the enlarged lymph node and the result was negative for tuberculosis, while throat swab revealed negative antistreptolysin O titer (ASO) test.

Laboratory investigations showed leukocytosis with atypical lymphocytosis and elevated liver enzymes. Cerebrospinal fluid level and culture were unremarkable. Viral serology was negative except for EB virus and antibody to Epstein-Barr virus was present in patient's serum. The clinical presentation and laboratory investigations suggested a diagnosis of infectious mononucleosis. The patient was admitted to the ward, treated with a course of IV dexamethasone and antibiotics together with supportive treatment including multivitamins and good hydration. The patient kept under close observation.



Fig. 1 – Photograph of the patient's tongue showing deviation to the left side upon protrusion.

Patient responded positively to this regimen; where the fever came down to normal within three days with gradual remission of throat pain, difficult swallowing and cervical adenopathy. Within two weeks patient was able to protrude his tongue without deviation (Fig. 2). The patient was transferred to Infectious Disease Hospital for further care and follow up.

3. Discussion

Infectious mononucleosis (IM) is a benign and self-limited disorder characterized by primary EB viral infection. Various neurological disorders, although uncommon, have been described in association with IM as meningitis, encephalitis and peripheral neuropathy. While any of the cranial nerves may be involved during EBV infection, an isolated hypoglossal nerve palsy is the least reported neurological complication and often present as a sign rather than symptom, although suspicious, is not pathognomonic of malignancy [6].

The relation between the time of onset of the clinical presentation of IM and the time of onset of the nerve palsy varies greatly, in our case it was 10 days. The possible explanation for this complication is presumably a local virus infection around the hypoglossal nerve nucleus [7].

The hypoglossal nerve is a motor nerve that innervates tongue musculature controlling its voluntary movements, when injured rarely causes much inconvenience; indeed, this nerve is often used in transplantation surgery to reanimate a paralyzed face [8].

Imaging studies, including CT scan and MRI, are mandatory in the diagnostic approach to find/rule out any causative pathology e.g. tumor [9]. In our case imaging data were unremarkable, as the nerve dysfunction was secondary to viral infection, and not induced by a lesion. Treatment of hypoglossal nerve palsy depends upon the cause. The prognosis of a complete recovery is excellent, although recovery may be prolonged [10]. Our case have been treated-as it was secondary to IM - satisfactorily with supportive treatment together with intra-venous antibiotics and corticosteroids.



Fig. 2 – Photograph of the patient's tongue showing normal protrusion.

4. Conclusion

We suggest that EB viral infection should be suspected in young and middle aged patients who present with pharyngitis, fatigue and cervical lymphadenopathy. Another important point is that patients with isolated twelfth nerve palsy must be carefully and meticulously evaluated and investigated for any underlying systemic disorder such as infectious mononucleosis. We report this case to emphasize that a cranial nerve paralysis although suspicious, doesn't necessarily indicate the presence of an underlying ominous lesion, even if it was associated with lymphadenopathy.

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