Case Report

Recurrent spontaneously reduced unilateral temporomandibular joint dislocation masquerading as a transient ischemic attack

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Abstract

Transient ischemia attack (TIA) is a daily challenge for emergency department (ED) doctors, particularly in patients who cannot express themselves clearly. Without a patient's precise subjective description, the doctor's clinical judgment may be influenced by the statements of bystanders. Symptoms might mimic focal neurological symptoms and lead to a misdiagnosis of a TIA. We report a 79-year-old woman with recurrent spontaneously reduced unilateral temporomandibular joint (TMJ) dislocation masquerading as a TIA. She experienced unilateral facial droop, deviation of the angle of the mouth, and difficulty speaking three times while eating. Because the patient's family and both the ED doctor and neurologist focused on TIA from the onset, TMJ dislocation was overlooked in the interpretation of the head computed tomography (CT) scan. When another episode occurred after the patient yawned while at the ED, unilateral TMJ dislocation was considered and confirmed. In conclusion, when patients present purely facial neurological signs after mouth opening, unilateral TMJ dislocation should be excluded first.

Keywords: stroke; temporomandibular joint disorders; transient ischemic attack

1. Case report

A 79-year-old woman with a medical history of hypertension presented to our emergency department (ED) because of sudden onset facial droop and deviation of the angle of the mouth to the left side. Because the patient was unable to speak clearly, the doctors relied on her daughter's statement that the patient had exhibited sudden facial droop, difficulty speaking, and deviation of the angle of the mouth three times while eating dinner. The first two episodes lasted less than one minute and the patient recovered spontaneously, whereas the third episode lasted longer than five minutes, and her daughter thought she might have had an acute stroke and brought her to our ED.

The patient's blood pressure was 137/86 mmHg, heart rate was 114 beats per minute, and finger-stick glucose was 128 mg/dL. On examination, she was cooperative and alert. Difficulty speaking, right-side facial droop, and deviation of the angle of the mouth to the left were noted. The patient presented no facial paresthesia, facial pain, tongue deviation, ptosis, or limbs paresthesia or weakness. An emergent head computed tomography (CT) scan was arranged, and no intracranial hemorrhage or space-occupying lesion was revealed. After the CT scan, the patient fully recovered. Based on suspicion of a transient ischemia attack (TIA), a neurologist was consulted for further evaluation. After taking history from the patient and her family, performing a physical examination, and

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reviewing the CT images and laboratory data, the neurologist suggested performing brain magnetic resonance imaging without contrast for confirmation of TIA.

At the ED, the patient exhibited right-side facial droop and deviation of the angle of the mouth to left after yawning. The ED doctor noticed a tender point in front of the patient's right ear. Right temporomandibular joint (TMJ) dislocation was suspected and confirmed by TMJ X-ray (Figure 1). The ED doctor reviewed the head CT scan and noted that an episode of right TMJ dislocation had occurred at that time (Figure 2) and later reduced spontaneously. The patient had no history of jaw dislocation. She received manual reduction and was discharged from the ED uneventfully.

2. Discussion

Early detection of stroke by patients or bystanders is a key component of successful treatment. Diagnosis of stroke is based on clinical symptoms and aided by neuroimaging; therefore, awareness of the warning signs of stroke, such as facial droop, limb weakness, and speech disturbance, have been emphasized to the public. When patients with suspected stroke present at an ED, bedside assessment may be difficult, particularly when the patient presents with transient focal neurological symptoms. Transient focal neurological symptoms that are not attributable to focal cerebral ischemia may imitate a TIA and can be labeled TIA mimics. Because diagnostic procedures and treatment differ between TIA and TIA mimics, distinguishing between the two entities is a critical task for ED doctors.

Because our patient could not express herself clearly when she first presented, the ED doctor and neurologist regarded the symptoms of recurrent facial droop and difficulty speaking as a TIA. Furthermore, the doctors did not interpret the bony structures on the head CT scan; consequently, a diagnosis of TMJ dislocation was not established initially. Acute TMJ dislocation is caused by excessive opening of the mouth, trauma, or seizure, and unilateral dislocation is less common. Acute TMJ dislocation occasionally reduces spontaneously and can be easily managed with manual reduction.

In this case, the patient's family assumed that she had experienced an acute stroke and stated the presentation before admission as being similar to TIA episodes. Both the ED doctor and neurologist focused on a TIA and overlooked other differential diagnoses. The differential diagnoses for facial droop include peripheral facial palsy, stroke, neoplasm, trauma, etc. Although unilateral TMJ dislocation is one of the differential diagnoses for facial droop, most patients with
unilateral TMJ dislocation are able to state their symptoms precisely. On the other hand, if the patients and bystanders could not describe the symptoms clearly, such as our case, the diagnosis of TMJ dislocation may become difficult and lead to misdiagnosis. In conclusion, if pure facial neurological signs appear after mouth opening, unilateral TMJ dislocation should be excluded first particularly in patients who are unable to describe their symptoms precisely.

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**References**