

Dislocation of bilateral temporomandibular joint in a critically ill patient after seizure

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Received July 20, 2015. Accepted July 30, 2015

Abstract

Spontaneous anterior temporomandibular joint dislocation is a rare scenario. Underlying systemic diseases such as epilepsy may predispose a patient to temporomandibular joint dislocation. We present here such a case of bilateral anterior temporomandibular joint dislocation following a single episode of seizure in a critically ill patient, which required to be diagnosed and treated urgently.

KEY WORDS: Temporomandibular joint, bilateral dislocation, seizure

Introduction

Dislocation of the temporomandibular joint (TMJ) is the dislodgment of the head of condyle from the glenoid fossa. Spontaneous anterior TMJ dislocation is rare scenario, with a recorded prevalence of 5.3 per 100,000 patients presenting to an emergency department.^[1] It can be partial or complete, bilateral or unilateral, and acute, chronic protracted, or chronic recurrent.^[2] Etiology is either spontaneous or traumatic. Forceful mouth opening performed by endotracheal Intubation or laryngeal mask insertion, ENT/dental procedures, endoscopy, excessive mouth opening during yawning, laughing, vomiting, and seizures.^[3-5] Management should be done urgently as it is a painful condition, and patients will not able to swallow properly, which could lead to aspiration, especially in drowsy patients.

Case Report

A 65-year-old woman, a known case of chronic renal failure, was admitted in intensive care unit (ICU) with breathlessness. On examination, she was found to be drowsy although

responding to verbal commands. Her vitals were stable. Oxygen saturation in blood was 98% on face mask with oxygen at 4 L/min. There were crepitations bilaterally in her chest. She was posted for urgent dialysis as her kidney function test levels were also deranged. After dialysis, her general condition improved although drowsiness remained. Her urea and creatinine in blood investigations still remained high although levels had decreased. On second day postdialysis, she had tonic-clonic seizures. She was not a known epileptic case, and a diagnosis of uremic encephalopathy was made. Injection midazolam (1 mg) was given intravenously slowly to control seizures. After the control of seizures, it was noted that she was not able to close her mouth properly, and there was general irritability probably because of pain. She was not able to vocalize also. She was diagnosed with bilateral TMJ dislocation clinically, which was confirmed with X-ray of mandible. Reduction of the joint was performed successfully with conventional reduction technique.

Discussion

This old lady was admitted in ICU in a critical condition. She developed inability to close her mouth and vocalize after an episode of seizures. It became imperative to diagnose her condition early as she was not able to swallow properly and was drowsy too, which could lead to aspiration pneumonia.

She was diagnosed promptly as the following features were present. There was an inability to close mouth, absence of condyle from the glenoid fossa resulting in a palpable preauricular depression, and a prominent appearing

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Website: <http://www.ijmsph.com>

DOI: 10.5455/ijmsph.2016.2007201559

Quick Response Code:



lower jaw.^[6] X-ray mandible also confirmed the diagnosis [Figure 1].

Reduction of mandible was done through conventional method after giving low doses of midazolam and fentanyl (0.5 mg and 40 μ g, respectively) intravenously, considering the poor general condition of patient. Standing in front of the patient, gloved thumb is positioned on the posterior lower molars bilaterally with fingers covered laterally around the mandible. With an application of constant inferior pressure, the mandible is pushed back into the glenoid fossa posteriorly [Figure 2].

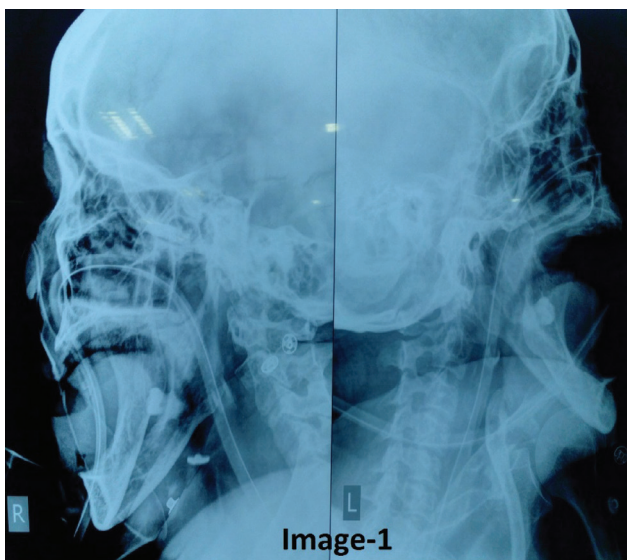


Figure 1: X-ray mandible showing dislocated mandible.



Figure 2: Method of reducing the dislocated mandible.

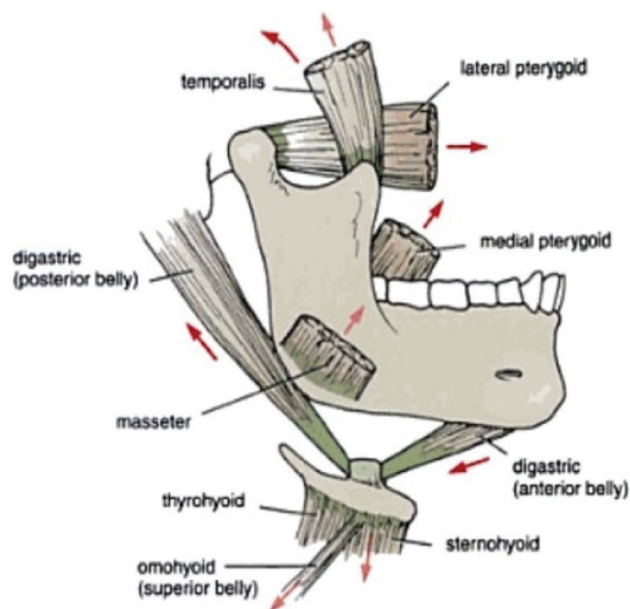


Figure 3: Muscles holding mandible in its position^[7]

Our case was unique as the dislocation occurred in a sick patient who needed to be diagnosed and treated urgently.

Relevant anatomy of TMJ needs to be discussed here. Four muscles of mastication move the mandible: masseter, temporal, medial, and lateral pterygoid muscles. These powerful muscles establish a balance among them and appropriately harmonize to perform a highly coordinated movement of the jaw [Figure 3].^[7] During tonic-clonic seizures, TMJ dislocation occurs when uncoordinated forces caused chiefly by the lateral pterygoid muscles, unilaterally or bilaterally, protract the articular discs and mandibular condyles out of the mandibular fossa causing both the condyles and the articular discs to crossover the articular eminence into infratemporal fossa.

Conclusion

Tonic-clonic seizures are known to cause TMJ dislocation, but it is not a common entity and rarely reported. In one case report, frequent unilateral dislocation was the only presenting feature of epilepsy.^[8] TMJ dislocation is a painful condition and clinicians should be familiar and confident in diagnosing and treating this condition, especially in critically ill patients.

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How to cite this article: Prakash S, Wankhade PR. Dislocation of bilateral temporomandibular joint in a critically ill patient after seizure. *Int J Med Sci Public Health* 2016;5:377-379

Source of Support: Nil, **Conflict of Interest:** None declared.