CASE REPORT

Temporomandibular joint dislocation during status epilepticus

Falihery Rakotomavo1,*, Herisitraka Raotoson2, Tsiorintsoa Yvonne Rasolonjatovo2, and Nasolotsiry Raveloson1

1Intensive Care Unit, Joseph Raseta Teaching Hospital, Antananarivo, Madagascar, and 2Maxillofacial Department, Befelatanana Teaching Hospital, Antananarivo, Madagascar

*Correspondence address. Intensive Care Unit, Joseph Raseta Teaching Hospital, Antananarivo 101, Madagascar. Tel: +261327130042; E-mail: faly rakotomavo@gmail.com

Abstract
Dislocation of temporomandibular joint (TMJ) secondary to a seizure is rare. We report the case of a 32-year-old woman, who presented with a left TMJ dislocation during a status epilepticus. The airway was protected until reduction. A bimanual relocation by Nelaton’s manoeuvre was attempted successfully.

INTRODUCTION
Orofacial injuries are common after the course of seizures, but temporomandibular joint (TMJ) dislocation is rare. We report the case of a left anterior TMJ dislocation occurring during a status epilepticus.

CASE REPORT
A 32-year-old woman weighing 48 kg was admitted to our intensive care unit after five generalized tonic–clonic seizures. The seizures lasted about 1 min each. The patient did not regain consciousness between two seizures.

She had been prescribed phenobarbital in the last year for tonic–clonic epilepsy; however, a treatment discontinuation has been observed due to poor adherence. She had no prior history of facial injury or jaw dislocation. The members of her family did not report any falls during the seizures. A spoon has been inserted by a family member into the patient’s mouth during crisis to protect her tongue from bite.

On admittance, blood pressure was 120/90 mmHg, heart rate 110 beats per minute, respiratory rate 31 breaths per minute, temperature 37.7°C and oxygen saturation was 96% on room air. She had a Glasgow Coma Scale score of 11/15 (E4, M5, V2). Capillary blood glucose was 1.16 g/l. There was no other abnormality detected on neurological examination. A mark of bite was observed on the right side of the tongue. The mouth was half-open with a deviation of the chin and the interincisor line to the right. Tumescence in front of the TMJ region and hypersalivation were noted. There was an inability to close the mouth. Left temporomandibular cavity was empty. Pulmonary auscultation revealed bronchoalveolar rales. Biological assessments were found within the normal limits. Panoramic radiograph showed a left anterior TMJ dislocation (Fig. 1).

She received 1.5 l of intravenous normal saline per day. She was placed in proclive position and under three litres per minute of oxygen. One another seizure occurred after admission, which was stopped by a bolus of 1 mg of clonazepam followed by continuous infusion of 2 mg for 6 h. To protect her airway, the patient was intubated after a bolus of 150 µg (3 µg/kg) of fentanyl, and she was placed temporarily under mechanical ventilation. Frequent oral aspiration was performed for reducing hypersalivation. A bimanual relocation by Nelaton’s manoeuvre was attempted suc-
cessfully. Improvement of consciousness was noted on the second day. She was extubated, and her jaw was immobilized by elastic bandage to limit the mouth opening. The patient was transferred after to the Neurology ward.

DISCUSSION

Dislocation of TMJ from seizure has been reported rarely. One case of bilateral TMJ dislocation has been observed in a 36-year-old Korean woman [1]. Mofidi et al. reported an unusual case of anterior dislocation that had a bilateral anterior dislocation of the shoulder simultaneously in a 30-year-old man, which occurred after a course of generalized tonic–clonic seizure [2]. Large series concerning seizure-related injuries did not report more than one case of TMJ dislocation [3, 4].

Muscular forces generated during seizure may lead to dislocation of the jaw. Other factors that may contribute to its occurrence are as follows: insertion of objects like spoon into the mouth during seizure, like in our case [3], falls [4]; some neuroleptics like carbamazepine, which may induce articular bones and tendons alteration [2]; and prior dislocation [1, 2].

Dislocation of TMJ during status epilepticus can be deleterious for patient. It induces hypersalivation and impairment of swallowing. Therefore, it promotes inhalation in a patient with altered airway protection reflexes. If immediate reduction cannot be attempted, the patient should be intubated to protect his airway.

Clinical diagnosis of TMJ dislocation is easy. If in doubt, TMJ radiography should be performed. Manual reduction should be attempted rapidly. If it is delayed, spasms of masseter and pterygoid muscles make reduction more difficult. There are several methods, but Nelaton’s manoeuvre is the most employed. It consists of placing two thumbs on the patient’s lower molar teeth with the fingers wrapped externally around the mandible bilaterally and applying steady and firm pressure directed downwards and backwards [5]. Occasionally, this is not possible, and general anaesthetic is required later to reduce dislocation.

TMJ dislocation may occur during seizure, and every physician should have the capacity to diagnose and to perform the manual reduction. During status epilepticus, the airway should be protected if the manual reduction cannot be attempted immediately. Our case emphasizes how insertion of objects into the patient’s mouth during seizure could be harmful, so this should be avoided [6].

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CONFLICT OF INTEREST STATEMENT

None declared.

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ETHICAL APPROVAL

All the patient’s rights were respected. The patient signed a consent form.

CONSENT

The patient signed a consent form.

GUARANTOR

Andry Mampionona RIEL is the guarantor of this article.

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