

Bilateral mandibular head fractures associated with convulsion

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Accepted 29 August 2021

DESCRIPTION

A 58-year-old man with diabetes, alcoholic cirrhosis and a history of cerebral contusion and traumatic subarachnoid haemorrhage visited the hospital after his first convulsion, which lasted for 30s. He was intubated because of the prolonged disturbance of consciousness caused by his intermittent convulsions. He was admitted to our intensive care unit after being diagnosed with symptomatic epilepsy and administered anticonvulsants. On admission, physical examination revealed no head and facial trauma, including broken teeth and tongue bites. He did not experience recurrence of the convulsion after admission. On the seventh day of hospitalisation, CT of the head, performed to search for the focus of fever, showed bilateral mandibular head fractures (figure 1). He was intubated and sedated until 10 days after admission and was unable to communicate symptoms such as jaw pain and restricted opening. We could not recognise him hurt his jaw while he was intubated. He did not report of jaw pain after he was extubated and able to communicate. The patient did not undergo surgery because his bone fragments had only minimally deviated. He could eat porridge painlessly on the 30th day of hospitalisation.

During convulsions, intense muscle contractions may be caused to fractures. In addition, trauma due to falls, crashes and traffic accidents can occur secondarily. Trauma, such as soft tissue injuries, burns, tooth injuries and head injuries occurs in about one-third of convulsive cases. In the earliest study in 1989, Finelli *et al* reported 1.1% sustained fracture of 2800 patients of seizure.¹ Fracture sites are commonly observed in the femur, humerus, ankles and wrists, skull and face bones in previous study.² In the recent study, severe adverse events such as fractures, joint luxation, corneal erosion and teeth loosening were observed in 2.1% per generalised convulsive seizure.³ However, few reports of mandibular fractures as single convulsion, there

Learning points

- ▶ Fractures associated with convulsion occur with or without trauma.
- ▶ Severe events such as fractures were observed in 2.1% per generalised convulsive seizure.
- ▶ Fractures associated with convulsion may be diagnosed by careful physical examination.

is a report that refractory epilepsy may be associated with dentoalveolar and mandibular fractures.⁴ A systematic review about bone fractures from generalised convulsive seizures reported that the shoulders' fractures were most frequently described (33%) and followed by thoracic and lumbar vertebral compression fractures (29%), skull and jaw fractures (8%) and bilateral femoral neck fractures (6%). Pascale *et al* reported also risk factors for seizure-related fractures. One of them is the use of anticonvulsant drugs known to decrease bone density. Patients at high risk for fractures, such as diabetic patients, heavy drinkers and malnourished patients, may have complicated fractures during convulsions.⁵ This case demonstrated that patients at high risk for fractures may have complicated mandibular fractures associated with convulsion. This case also showed that physical examination of patients with risk factors for bone density deficiency should be done carefully.

Contributors MY cared for the patient and wrote the report. TH, YU and KD cared for the patient, and read and approved the final version of the report.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient consent for publication Consent obtained from next of kin.

Provenance and peer review Not commissioned; externally peer reviewed.

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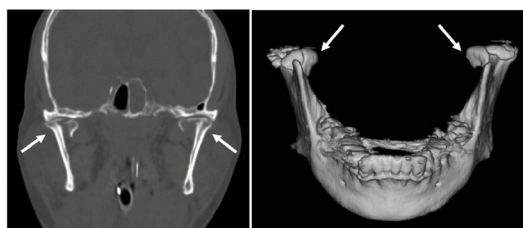


Figure 1 CT of the head showing bilateral mandibular head fractures (arrow). Three-dimensional constitutive images showed similar findings.



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To cite: Yamamoto M, Hiruma T, Ueda Y, *et al*. *BMJ Case Rep* 2021;14:e245713. doi:10.1136/bcr-2021-245713

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