

IJBHS 2007038/3310

## Temporomandibular Joint Dislocation at Upper Gastrointestinal Endoscopy- A Case Report

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(Received May 27, 2007)

**ABSTRACT:** An unusual case of dislocation of the temporomandibular joint is reported in a 31-year old Nigerian who is HIV seropositive during upper gastrointestinal tract endoscopy for dyspepsia. The present case, which to the authors' knowledge is the first to be reported in Nigeria, and only the fifth in the literature, confirms that the phenomenon is extremely rare.

**Key Words:** Temporomandibular Joint, Dislocation, Upper Gastrointestinal Tract; Endoscopy.

### Introduction

Temporomandibular joint (TMJ) dislocation is an infrequent condition. The condition causes the patient discomfort, although most are not in severe pain. In a majority of cases, the mandible can be reduced using simple techniques. Rarely, a mandibular dislocation may require open reduction under general anaesthesia<sup>1,2</sup>.

Certain patients are predisposed to mandibular dislocation at the TMJ joint by virtue of a shallow mandibular fossa in the temporal bone or an underdeveloped condyle of the mandible. In addition, patients with connective tissue diseases, such as Marfan syndrome or Ehlers-Danlos syndrome, can also have a reported increased incidence of mandibular dislocation and subluxation. Most cases of dislocation occur spontaneously when the jaw is opened wide (eg, while yawning, yelling, eating, singing, during prolonged dental work, endoscopy) or during a seizure.

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Traumatic dislocations also occur when downward force is applied to a partially opened mandible. Once the condyle is pried out of its fossa, it lies anterior to the articular eminence and is blocked mechanically from spontaneously reducing<sup>1,2</sup>. Spasm of the masseter and pterygoid muscles results in trismus and further traps the condyle in its dislocated position. The resulting dislocation may be unilateral or bilateral. In either case, patients are unable to close their mouths completely and often have difficulty speaking. The dislocation is surprisingly not very painful unless an associated mandibular fracture is present. In rare instances, severe trauma may result in displacement of the condyle medially into the cranial fossa. Mortality is not associated with mandibular dislocation. Morbidity is due to an increased tendency for recurrent dislocation and for eventual development of painful osteoarthritis of the traumatized joint or TMJ syndrome. Delayed reductions in fracture/dislocations may result in limited mobility secondary to fibro-osseous ankylosis<sup>1,2,3</sup>.

## **CASE REPORT**

Patient ED is a 31-year old Community Health Extension worker resident in Girei, Adamawa state. He presented to the Medical out-patient unit of the Federal Medical Centre, Yola for upper gastrointestinal tract endoscopy on the 18<sup>th</sup> of April, 2007 on account of dyspepsia which he had been having for some time. He had no other symptoms referable to the gastrointestinal system except for occasional vomiting and significant weight loss.

He was diagnosed to be HIV (I&II) seropositive about two weeks earlier. Identified risk factors for this infection were a past history of uvulectomy and circumcision by traditional surgeons. Examination revealed a young man with healed widespread maculopapular skin eruptions, with a few peripheral lymph node enlargement otherwise he was normal.

Available investigation results:

HIV (I&II) serology – positive

CD4 cell count 260 cells/microlitre

Packed cell volume 26%

Liver function tests: Bilirubin < 1.0microlitre

Alanine aminotransferase (ALT) 8.0mmol/litre

Aspartate aminotransferase (AST) 13.0mmol/litre

Alkaline phosphatase (ALP) 23.4mmol/litre

Albumin 38.0g/litre

Protein 80.0g/litre

The patient was made to fast for 6-8 hours and had 10% plain xylocaine spray applied to the pharynx before undergoing UGI endoscopy. The patient also had 20mg of intravenous hyoscine bromide, and an additional 25mg of promethazine applied because he was anxious. After the premedication, the Fujinon gastroscope was passed with considerable difficulty because the patient was uncooperative and anxious. He had to be extubated and reintubated before the procedure got underway. Several times during the procedure the patient was restless, and attempted to talk. He kept opening his mouth wide in an attempt to talk and signal his unwillingness to continue. After the endoscope was withdrawn, the patient's jaw was noted to hang open unable to close. He started drooling saliva, and pointed repeatedly to his jaw in a sign that he was in a painful distress and unable to close the jaw. A close examination showed that he had developed a temporomandibular joint dislocation with tenderness at the TMJ area (see figure 1). An x-ray of the jaw could not be taken as the immediate concern was to relieve his distress and reduce the dislocated joint. This author requested for assistance from a doctor nearby who has experience with such cases and the dislocation was reduced after some manoeuvre.

No further treatment was instituted. The discomfort subsided and he was discharged home. This was the first episode in his life.

## Discussion

The presentation of TMJ dislocation depends on the duration of dislocation, presence of associated fracture, and whether the dislocation is bilateral or unilateral<sup>1</sup>. In a unilateral dislocation, the mandible is tilted and lies lower on the affected side. Associated edema, tenderness, and palpable deformity may be present in the TMJ area. The teeth cannot be closed actively or passively. In bilateral dislocation, when both mandibular condyles are dislocated, the patient appears to have prognathia (underbite) and has bilateral edema and tenderness in the TMJ areas. The teeth do not close actively or passively as a result of mechanical obstruction. Bilateral masseter spasm often is palpable. If there is associated fracture at the base of the condyle or in the subcondylar region of the mandible, it allows the mandible to slide forward and mimic a dislocation.

The pain associated with a fracture is greater than that with a simple dislocation<sup>1</sup>. Patient ED's jaw hung open and unable to close his teeth either actively or passively. There was also tenderness at the TMJ area. His mandible did not tilt, and both mandibles were at the same level. These suggest that the patient had a bilateral TMJ dislocation without a fracture. The fact that the pain he experienced was not very severe and he was able to go home shortly afterwards without analgesics also buttressed the fact that he had a dislocation without a fracture (see Figure 1). This was the first occurrence in his life. A review of the literature revealed that the occurrence of TMJ dislocation at endoscopy is extremely rare<sup>4-7</sup>.

The first reported case of bilateral TMJ dislocation at endoscopy was by Mangi et al<sup>4</sup> who reported the occurrence of bilateral TMJ in an Irish woman after endoscopy in 2004. After this, there has been only three other reported cases to date<sup>5-7</sup>. The present experience of the author with TMJ at endoscopy after several sessions of endoscopy both as a trainee and as a trainer also supports the findings in the literature that the phenomenon is rare. This case is therefore the first in Nigeria, and the second reported case in the whole of Africa after that reported by Fayman et al<sup>5</sup>. Endoscopists should be aware of this uncommon phenomenon which is apparently more alarming than dangerous.



Fig. 1: Patient with TMJ dislocation.

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