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Case Report
TMJ Disorders

Superolateral dislocation of the intact mandibular condyle: report of a rare case with a review

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Abstract. Dislocation of the temporomandibular joint, which represents 3% of all dislocated joints reported in the body, occurs when the mandibular condyle is displaced anteriorly beyond the articular eminence. Although anterior dislocation of the mandibular condyle is well documented in the literature, superior, lateral, and posterior dislocation of the condyle is rare. Only a few reports documenting superolateral dislocation with anterior mandible fractures have been published in the past. However such dislocations without any associated fractures are even rarer. This report documents a case of superolateral dislocation of an intact mandible in a 48-year-old woman following a traumatic incident. This paper also reviews previously documented case reports and focuses on the causative mechanism, dynamics, and management of such dislocations.

Key words: trauma; mandibular condyle; superolateral dislocation; temporomandibular joint.

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Dislocation of the mandible is one of the earliest afflictions of the jaws to be described in the literature. Hippocrates, in the 5th century BC, described this condition and its management. His method of reduction has survived the ages and is used in modern times. In 1832, Sir Astley Cooper proposed principles for the diagnosis and treatment of dislocation of the lower jaw and coined the terms 'subluxation' (incomplete dislocation) and 'luxation' (complete dislocation). Subluxation is an incomplete joint dislocation in which the articular surfaces maintain partial contact and the condyle is able to return to the glenoid fossa voluntarily or aided by self-manipulation. Dislocations can be either acute, which cannot be self-reduced, or chronic – also known as habitual or recurrent dislocation.

Complete dislocation of the mandibular condyle may occur in four directions viz., anterior, posterior, lateral, and superior. Dislocation is more common in the anterior direction (owing to the pull of the lateral pterygoid muscle) than in the other three directions, which are rare. Lateral displacement of the intact mandibular condyle was first reported in 1849 by Robert and is a rare complication of injury to the mandible.[1] A case of superolateral dislocation of the intact mandibular condyle (SDIMC) without a concomitant fracture of the mandible, occurring following a trauma, is reported herein. To date, 28 cases of superolateral dislocation have been documented in the English language literature, with only two of these cases showing such a dislocation without any associated facial fracture. This report reviews the literature on superolateral dislocation of the intact condyle, provides an

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insight into the possible causative mechanism, and provides information for the diagnosis and management of such cases.

Case report

A 48-year-old woman was referred for the complaint of inability to open her mouth and chew for 2 days. The patient reported having fallen in the bathroom following an episode of fainting. The patient could not describe the exact nature of the trauma, but vaguely remembered having fallen against the left side of her face, following which there was bleeding through her right ear of brief duration. After evaluation by a neurosurgeon and otolaryngologist, the patient was referred to the department of oral and maxillofacial surgery.

Clinical examination revealed lower facial asymmetry with the mandible deviated towards the right. There was a sutured wound over the chin and the patient had marked trismus with a maximum inter-incisal opening (MIO) of 7 mm. There was a noticeable prominence in the right pre-auricular region. An intraoral examination showed a grossly deranged occlusion with a crossbite on the right side (Fig. 1). There was no evidence of any tenderness or step deformity at the anterior mandible. A panoramic radiograph and postero-anterior radiographs of the skull obtained earlier were inconclusive. Computed tomography (CT) with three-dimensional reconstruction was performed. The CT scan revealed superolateral dislocation of the right mandibular condyle with no evidence of any fracture of the condyle, anterior mandible, or other facial bones (Figs 2 and 3).

After an unsuccessful attempt at closed reduction under local anaesthesia, the patient was treated under general anaesthesia on day 4 post-injury. Bimanual reduction was successfully carried out by applying outward and downward pressure over the molar region, and the pre-injury occlusion was re-established. The MIO achieved intraoperatively was 39 mm. Maxillomandibular fixation (MMF) was applied for 10 days, following which rigorous physiotherapy was started. At 3 weeks post-treatment, the patient's occlusion was satisfactory (Fig. 4). At the 4-week follow-up, the patient's mouth opening was 35 mm; however she continued to show deviation of the jaw to the right on mouth opening.

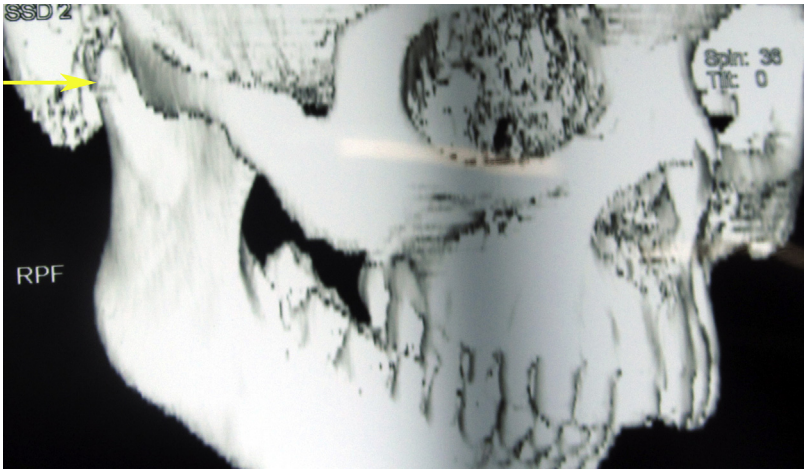

Fig. 2. Three-dimensional CT image showing superolateral dislocation of the right condyle (yellow arrow).

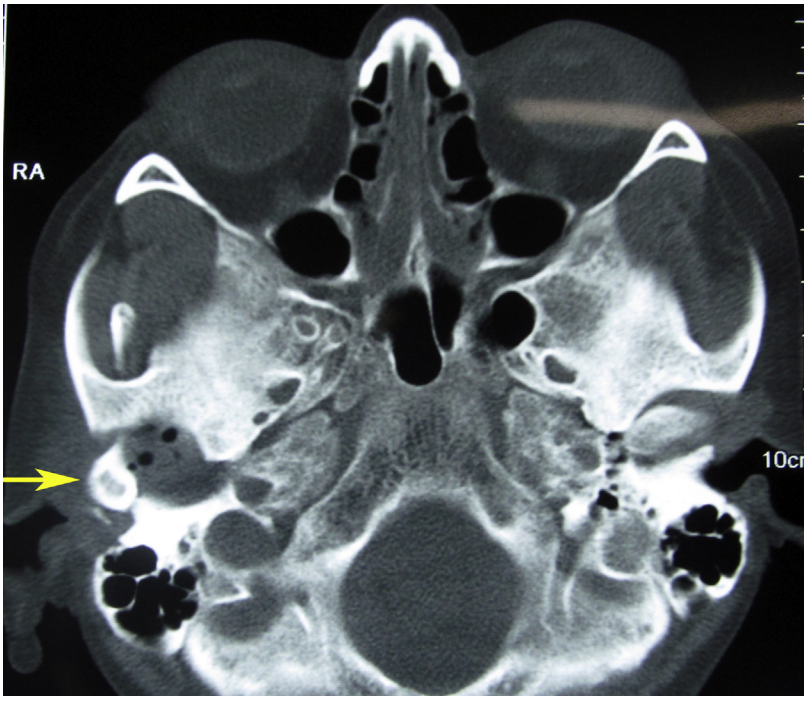

Fig. 3. Axial section CT image showing superolateral dislocation of the right condyle (yellow arrow).

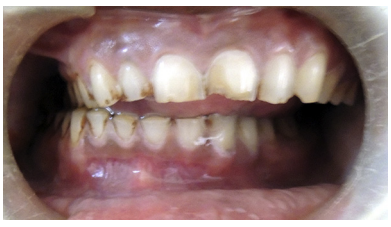

Fig. 1. Intraoral photograph showing a grossly deranged occlusion with a crossbite on the right side and open bite on the left side.

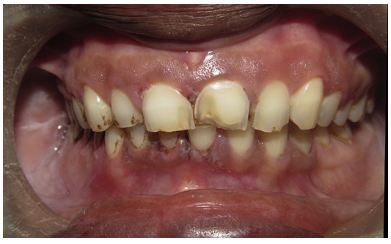

Fig. 4. Intraoral photograph showing the occlusion at 3 weeks post-treatment.

Discussion

A search of the PubMed database was performed to identify all relevant case

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