Bifid Mandibular Condyle Rare Entity: A Study

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Abstract
Bifid Mandibular Condyle as described in this study is very rare case of condylar anatomy, most preferably diagnosed on incidental radiographic examination. It is noticed at any age with male dilection of 3:2 ratio. The etiology and pathogenesis of Bifid Mandibular Condyle though remains controversial and it lacks pathognomic clinical features and proper description as only few case are reported so far. Herein, a study of 5 cases of unilateral bifid condyle in Jammu and Kashmir population is reported.

Keywords: Unilateral, Condyle, Bifid, very rare entity.

Introduction
Bifid mandibular condyle is very rare condylar anomaly often found incidentally on routine radiographic investigations mainly because it remains either asymptomatic or is masked by symptoms of other condylar abnormalities. The Bifid Mandibular Condyle (BMC) represents a rare developmental anomaly first described in 1941 and only 67 cases have been reported till now[1] also a case of unilateral bifid condyle in Indian population is reported[2].

The presence of bifid mandibular condyle is a rare condition[3-7] most commonly reported as incidental unilateral finding[3,8,10]. more cases have been reported rather identified on autopsy than in clinical setting[6] as mentioned above most of reported cases have been in asymptomatic patients or in association with temporomandibular joint diseases like ankyloses[9,10]. our case reports one such BMC case in population of Jammu and Kashmir, India which was identified incidentally on radiographic investigation.

Several factors have been cited as possible causes of BMC, including condylar fracture, developmental anomalies, perinatal trauma, teratogenic embryopathy and surgical condylectomy[11].

Material and Method
The purpose of this article remains to report possibly the very few cases of unilateral bifid condyle in Jammu and Kashmir population and to review the relevant literature. The study was conducted on 100 patients who were taken for tmj pain management by arthrocentesis and out of those 100 patients it was accidentally found that 6 patients had bifid mandibular condyle.

The pain exaggerated on chewing occasionally accompanied with clicking sound. As a part of routine radiographic investigation patient was advised for intra oral and OPG to access the
conditions. The patient’s panoramic revealed bigemination of the left condylar process with mid lateral pattern. The patient had no facial asymmetry, no history of trauma or signs that could be associated with any alteration. Mouth opening was 48 mm and left and right laterality of 10 and 12 mm respectively.

Intra oral examination revealed patient had chronic irreversible pulpitis w.r.t 26 and was advised for endodontic care.

Also since the patient recounted occasional discomfort in the left TMJ Clinical examination of the head and neck region revealed clicking sound on mouth opening with no deviation or any abnormal movement.

Result:- Since our sample size is very less, out of 6 patients only 4 patients got relief from pain after arthrocentesis.

**Fig 1:** orthopantomogram showing the anatomical left bifid anatomical structures of patient.

**Fig 2:** panoramic view showing left bifid mandibular Condyle

**Fig 3:** CT image showing Mandibular condyle.

**Discussion**

Bifid condyle is a rare anomaly with an unclear cause. The study of Szentpetery et al, on 1882 cadaveric skulls, found the incidence of BMC to be 0.48%. Loh and Yeo\(^{[12]}\) reported 4 cases of bifid mandibular condyle, included one involving an edentulous cadaver. Bilateral bifid condyles are very rare. Shaber\(^{[13]}\) (1987) described the first case of bilateral bifid condyles in a patient. Bilateral bifid condyles are very rare. Review of literature in living patients revealed a total no. of 45 cases of bifid condyle, out of which 11 cases are bilateral, giving a ratio of approximately 3:1. In the literature, Cowan and Ferguson\(^{[14]}\) (1997) found 36 patients with bifid condyles. Artvinli and Kansu\(^{[15]}\) (2003) and Antoniades et al (2004)\(^{[16]}\) have reported two cases of bifid condyles who had trifid condyle on the other side.

There is no predilection for gender or for any race. They are usually seen to be more common on the left side in unilateral cases by a ratio of 2:1. Most cases (67%) are pain free and no symptoms and are found on routine radiographic examination.\(^{[15]}\) However, some have been reported in patients presenting with TMJ symptoms, internal derangement, trauma,\(^{[16]}\) or ankylosis.\(^{[17,18]}\) This is in addition to the cases of bifid condyles associated with ankylosis.

**References**

2. Unilateral, Condyle, Bifid, very rare entity | Smita Kamtane, BDS, MDS, Subramaniam