

## Facial Disfigurement and Deformity, a Social Stigma Needing Correction

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### Abstract

Ankylosis of the temporomandibular joint is a common disorder which may occur as a result of trauma or infection. It could be present from birth or may be acquired later in developing phases of childhood. There is a restricted mouth opening due to limitation of the movements of the temporomandibular joint and as it affects the anterior mandibular growth, it can lead to a severe facial disfigurement. The condition must be surgically treated followed by physiotherapy. We present a case to highlight the etiopathogenesis and diagnosis of this disorder.

**Keywords:** Facial Disfigurement; Deformity; Physiotherapy; Temporomandibular Joint

### Introduction

Ankylosis of the temporomandibular joint is the fusion of the mandibular condyle with the glenoid fossa of the temporal bone and is a grave and an extremely disabling condition [1]. Slurry speech, impaired masticatory ability, rampant dental caries, poor oral hygiene, retarded mandibular and facial growth, and shortening of the airway result in both physical as well as psychological disabilities [2]. This is especially a fact in small children who are totally incapable of opening their mouth. Depending upon the location, type of tissue and extent of fusion ankylosis has been classified as extra or intra-articular, osseous, fibrous or fibro-osseous and complete or incomplete ankylosis [3]. The most common cause of ankylosis is trauma and less commonly local or systemic infections are the implicated [4]. The age of onset is commonly below ten years.

### Case Report

A 24-year-old male patient reported with the chief complaint of toothache since a week. History revealed that the patient was unable to open his mouth fully since childhood following a fall when he was 2 years old. Since then he has difficulty in chewing food and cleaning his mouth. He also has toothache off and on. Due to his restricted mouth opening dental treatment has been denied to him since childhood.

On clinical examination, the patient had obvious facial deformity, a bird-like face and a convex profile (Figure 1 and 2). The condylar movements were not palpable bilaterally on both extra-auricular and intra-auricular examination. A notch-like deformity was palpable in the angle region of the mandible bilaterally and the chin was retruded. The inter-incisal distance was 5mm and there were multiple carious teeth with a fractured maxillary central incisor (Figure 3). Reverse Towne's view of the skull and a panoramic radiograph were taken,

and it was seen that the joint space was obliterated and the condyle on both sides represented as a disorganized bony mass (Figure 4 and 5). The coronoid processes were elongated bilaterally and prominent antegonial notches were seen in the mandible especially accentuated on the left side.



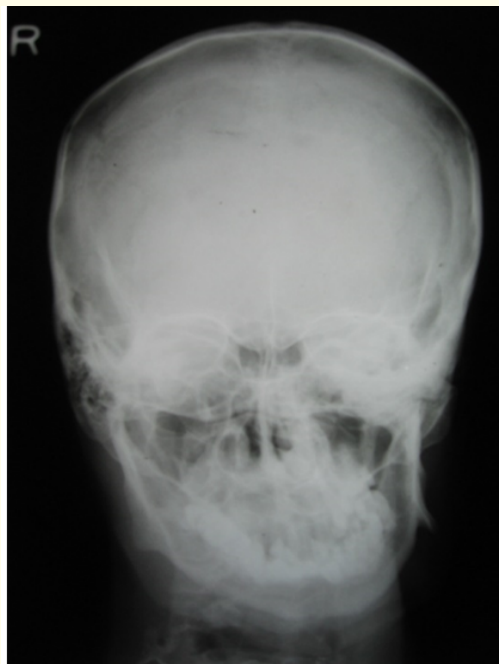
**Figure 1:** Frontal photograph showing facial deformity.



**Figure 2:** Convex profile with retruded mandible giving a bird like appearance.



*Figure 3: Intra-oral picture showing a restricted mouth opening.*



*Figure 4: Postero-anterior view of the skull showing gross facial asymmetry.*



**Figure 5:** Panoramic radiograph reveals obliteration of the joint space with the condyle on both sides represented as a disorganized bony mass. The coronoid processes were elongated bilaterally and prominent antegonial notches were seen in the mandible especially accentuated on the left side.

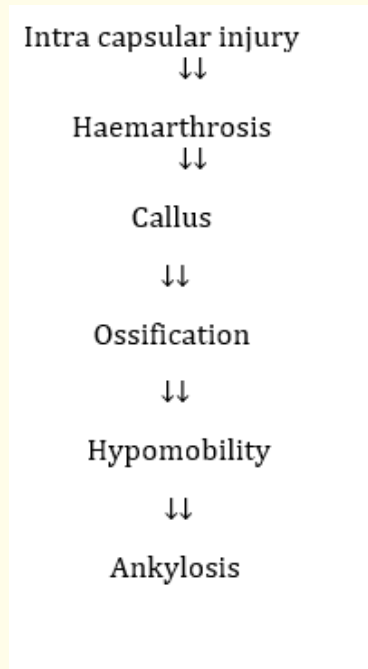
Correlating the history of early childhood trauma, inability to open the mouth, lack of condylar movements, convex profile, bird shaped facial appearance, retruded chin and radiographic findings of obliteration of joint space with an irregular calcific mass and prominent antegonial notches in the mandible confirmed the diagnosis of bilateral temporomandibular joint ankylosis. The patient was advised to undergo surgery for gap-arthroplasty but was lost to follow-up.

### Discussion

Temporomandibular joint ankylosis is a debilitating disease of the joint. It is characterized by reduction or complete restriction of the movement of the mandibular condyle commonly as a result of traumatic injuries or surgical procedures or rarely as a result of local like otitis media or mastoiditis [5]. Even systemic infections like tuberculosis, gonorrhoea or scarlet fever, degenerative disease like rheumatoid arthritis have been implicated [6]. The mechanism of ankylosis [7] following trauma is as follows.

Typically, the patient gives a history of trauma or infection in the childhood, sometimes even scar marks may be seen in the temporomandibular joint area [8]. It may be unilateral or bilateral. When unilateral it needs to be differentiated from other unilateral developmental disorders affecting the face like hemifacial microsomia and pierre robin syndrome in which there is facial deformity and decreased antero-posterior growth of the mandible, but the mouth opening is normal though facial clefts and auditory problems might be present [9]. On palpation the notching or irregularity is felt in the angle of the mandible, but the condyles are not palpable.

Radiologic appearance is characteristic with the absence of the radiolucent joint space intervening between the condyle and the glenoid fossa, and the condylar head does not resemble its true anatomic picture, depicting as a disorganized radiopaque irregular mass [9]. Prominent antegonial notching in the mandible is another feature very characteristic in this disorder.



**Figure**

Although it is one of the common acquired pathologies afflicting face and mandible, it also happens to be one of the most neglected and under-managed pathologies in the paediatric population. Surgical treatment is complex, and the chances of recurrence is also high if the post-surgical physiotherapy is not performed [10]. Most of the time the failure of the treatment is attributed to the insufficient resection of the ankylotic mass and in creating passive maximal opening intra-operatively. Kaban., *et al.* [11] gave a surgical protocol for treating ankylosis which included resection of the ankylotic mass, followed by excision of the coronoid process bilaterally and creating an artificial articular disc using the temporalis muscle and reconstruction of the ramus using distraction osteogenesis or costochondral graft and rigid fixation [12]. The procedure is completed following early mobilization and aggressive physiotherapy.

**Conclusion**

TMJ ankylosis is a common yet problematic disorder starting in childhood, starting with difficulties in eating, impaired speech, facial disfigurement and obstructive sleep apnoea. Hence an early diagnosis followed by prompt treatment restores normal masticatory function and dentofacial growth and balance.

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