



A PSEUDOANKYLOSIS OF TMJ: A CASE REPORT

Surgery

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ABSTRACT

Material and method- This case report considers a 10 year old female, who reported with chief complaint of reduced mouth opening i.e 12mm. On radiographic examination bony mass was seen on sigmoid notch. CBCT revealed unilateral pseudoankylosis of right side of mandible. Based on extra-oral examination and radiographic examination treatment plan was made i.e removal of bony mass. Then excision of bony mass was done under GA and satisfactory mouth opening was achieved and physiotherapy was advised to the patient and follow up was done. On 6 month post op, the mouth opening is 33mm

Conclusion- Pseudoankylosis can occur by trauma, radiation and infection. We can lower the incidence by early physiotherapy. In some cases we can treat it by forceful mouth opening and in certain cases we can treat it by removing the mass.

KEYWORDS

Pseudoankylosis, Mouth opening, Bony mass

INTRODUCTION

Kazanjian suggested classification of ankylosis of the temporomandibular joint into true and false ankylosis. A true ankylosis is a fibrous or bony adhesion between the articular surfaces of the temporomandibular joint. A false ankylosis, or pseudoankylosis, results from pathologic conditions outside the joint that limit mobility of the mandible.¹ Pseudoankylosis is a persistent restricted mandibular mobility which results from pathologic condition, outside the temporomandibular joint.² Pseudoankylosis may be myogenic, osteogenic, neurogenic. The most common causes of pseudoankylosis are trauma, radiation and infection. Various forms of extracapsular ankylosis have been described in literature, which includes coronoid to base of the skull, syphilitic myositis involving masseter and temporalis, osteoma of the coronoid process, scar formation within the muscles of mastication and unilateral coronoid hyperplasia. The most common form is coronoid zygomatic ankylosis, which usually follows fracture of the zygoma.³

Pseudoankylosis of the TMJ has been reported following the zygomatic fractures, facial infections, tumor surgery, temporoparietal craniotomy and transcoronal surgery, idiopathic hyperplasia of the coronoid process and congenital synostoses of the maxilla and the mandible. After the radiate on therapy in head and neck cancer, it can lead to fibrosis of the masticatory muscles. In pseudoankylosis of tmj the hypomobility of mandible ranges from partial to complete restriction, depends upon type and amount of connecting tissue involved. For example in case of fibrous tissue between coronoid and zygomatic arch, leads to partial hypomobility and bony fusion after non treated zygomatic fractures leads to complete restriction.²

Management of pseudonkylosis involves removal of the involved bony mass, relief of restricted mouth opening, followed by the physiotherapy. This report describes case of pseudoankylosis in 10 year old female patient and its management.

Case report

A 10 year old female patient reported to the department with the chief complaint of reduced mouth opening since 2-3 years. Patient gives history of fall 6 years back, because of which patient underwent treatment for broken jaw. On extra oral examination, mouth opening was reduced that is 12 mm, deviation chin was seen on the right side. On palpation anti-gonial notch was prominent on the right side. Orthopantomogram and CBCT was advised. On radiographic evaluation, a bony mass was seen on the sigmoid notch, extending from the anterior part of the condyle till coronoid notch. In coronal view there was no bony fusion seen between coronoid and zygomatic arch. After evaluating radiographically, treatment plan was made that is excision of bony mass.

Alkayat Bramley along with pre-auricular incision was given and bone was exposed. Then with the help of bur the bony mass was removed and 35 mm mouth opening was achieved. Physiotherapy was advised to the patient and patient was kept on regular follow ups.

DISCUSSION

Extra-articular ankylosis is very rare condition.⁴ It usually follows facial fractures which occurs due to gunshots, treated or un treated fractures of zygomatic complex, with or without fracture of coronoid process, chemical burns, infection extending infra-temporal space, surgical complications and extension of intracapsular ankylosis.⁵ Impingement of coronoid process, reduces the mandibular movements, which is a frequent sign in unreduced or medially displaced zygomatic fracture. It can remain permanent, if the reduction fails or post-operative physiotherapy is not adequate. But in fibrous extra-articular ankylosis, symptoms are more or less the same but pathogenesis is dissimilar. Hematoma which occurs because of the fracture, it develops into fibrous tissue, which unites the coronoid process to adjoining bony structures, like to the zygomatic arch, which has happened in our case.⁶ According to **Rothwell et al in 1987**, radiation therapy can also be the one of the reason of hypomobility on mandible, when muscle of mastication lies within the field of radiation, oedema, cell destruction and fibrosis is formed. According to **Rikalainen et al in 1981**, the development of fibrous ankylosis was slow and gradual process, the tissues which restricts movement of mandible, which is weak at first, so physiotherapy provides good result in this case. According to **Kellner et al in 1979** closed procedures can also be used like forceful mouth opening under GA, but it also has a drawback, like one cannot say what might ruptures during the forceful mouth opening.

According to **Brown et al in 1946** can be coronoidectomy or removal of the fibrous mass, which is impinging on the zygomatic arch, followed by the physiotherapy.⁷ Considering the extent of bony mass and mouth opening, Alkayat Bramley along with preauricular incision, seems to be the good option for opening the affected area, with coronoidectomy, resection of either bony or fibrous mass, followed by the early post operative mouth opening exercises.⁸

CONCLUSION

Fibrous extra-articular ankylosis of the mandible is a rare complication followed by trauma. We can decrease its incidence by early and supervised physiotherapy. In certain cases we can treat it by forceful mouth opening under GA and in certain cases we can treat it by removing the mass, hindering the mouth opening.

- **Consent For Publication-** Not Applicable
- **Availability Of Data And Materials-** Not Applicable

AUTHORS CONTRIBUTIONS

- 1st author analyzed and interpreted the patient data and contributed in writing manuscript
- 2nd author did the surgery
- 3rd author did the surgery
- 4th author assisted the surgery

Acknowledgement- Not Applicable



Figure 1 Pre-op Mouth Opening 12 MM

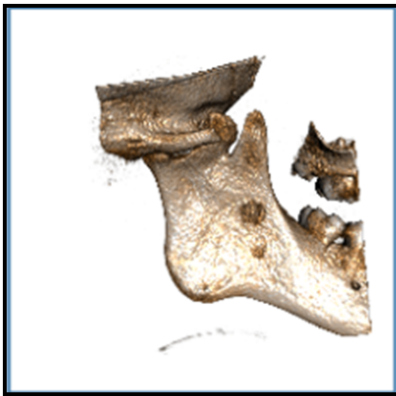


Figure 2 Pre-op Cbct Showing Bony Mass Present Over Sigmoid Notch



Figure 3 Pre-op Cbct Showing Space Between Bony Mass And Zygomatic Bone



Figure 4 6 Months Post-op Mouth Opening 33 MM

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