Research Paper

Medical Science



Fibrous Temporomandibular Joint Ankylosis : A Case Report

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BSTRACT

Ankylosis of the temporomandibular joint is immobility or fusion of the joint. Ankylosis of the temporomandibular joint (TMJ) most often results from trauma or infection. In bony ankylosis, the condyle or ramus is attached to the temporal or zygomatic bone by an osseous bridge. In fibrous ankylosis a soft tissue (fibrous) union of joint components occurs; the bone components appear normal. In this Paper we report a case of TMJ ankylosis in a 16 year-old male patient showing most of the characteristic features of this condition.

KEYWORDS

TMJ ankylosis, temporomandibular joint disorders, Gap Arthoplasty.

Introduction

Temporomandibular joint (TMJ) Ankylosis involves fusion of the mandibular condyle to the base of the skull. Trauma andinfection are the leading causes of ankylosis.1

The initial sign of TMJ problem may be limitation of jaw opening, which can be noticed bypatient as well as the dentist. Pain is uncommon. Early diagnosis and treatment are proven key in management along with long term treatment plan and assessment at regular interval. In this Paper we report a case of TMJ ankylosis in a 16 year-old male patient showing most of the characteristic features of this condition.

Case Report

A 16-year-old male patient reported to our department with a chief complaint of difficulty in opening his mouth and for the facial asymmetry. He was also concerned with inability to chew.

Patient give history of fall and also reported that he had trauma specially on right side TMJ. They his parents noticed reduced mouth opening and facial asymmetry which became more pronounced as age advances to the present situation. No relevant history of ear infection, weight loss, drug history and family history.



Fig 1 Extra-oral view

On extra oral examination obvious facial asymmetry, (fig.1) Flattening on the left side of the face, Fullness, roundness on right side (affected side of face), Deviation of mandibletoward the right side (Affected side).



Fig 2 Lateral view

Fig 2 shows Prominent antigonial notch present on right side of face and Retrognathic mandible.

On the basis of characteristic clinical features, the patient was diagnosed as having right side Temporomandibular ankylosis. The differential diagnoses included condylar tumour muscle spasm and fracture of mandible.Radiological investigations included an orthopantomogram, computed tomography were carried out.

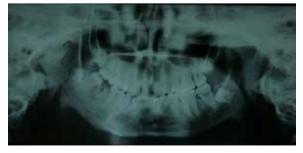


Fig 3 orthopantomogram

The orthopantomogram, (Fig. 3) revealed elongation of right coronoid process of mandible along with prominent antigonial notch on affected side and narrow joint space.



Fig 4 Coronal CT Image

CT scan (coronal section), (Fig. 4) revealed joint, irregular erosion of articulating surface (Jig saw puzzle appearance) suggesting of fibrous TMJ ankylosis on right side.



Fig 5- 3D reconstructed CT image

The 3D reconstructed CT image (Fig 5) also shows elongation of right coronoid process of mandible along with prominent antigonial notch on affected side and narrow joint space.

After the investigations the confirmed diagnosis of Fibrous temporomandibular joint Ankylosis of right was made and planned for further surgical assessment and management.

Discussion

TMJ Ankylosis is a condition in which condylar movement is limited by a mechanical problem in the joint ('true' ankylosis) or by mechanical cause not related to joint components ('false' ankylosis).²

☐ *True Ankylosis* - is of two types: Bony: condyle or ramus is attached to the temporal bone by an osseous bridge Fibrous: soft tissue union of joint components occurs, bone components appear normal

☐ False Ankylosis - may result from conditions that inhibit condylar movement like muscle spasm, myositis ossificans or coronoid process hyperplasia.

Causes

Inflammatory destruction of synovial lining of joint. Inflammation may result from,³

- Primary infection of joint
- Extension from neighbouring infection such as otitis media, mastoiditis, osteomyelitis of mandible
- Blood-borne infection from several sources
- Trauma to the ioint
- Rheumatoid diseases like rheumatoid arthritis, ankylosing spondylitis, Reiter's syndrome
- Hemarthrosis (such as those occurring in haemophiliacs) This can be summarized as following

Management

Interpositional Gap Arthroplasty is a highly effective and safe surgical management option for TMJ ankylosis with acceptable immediate and long term outcome, particularly when temporalis fascia and muscle are used for adults and costochondral grafts with fascia interposition used for children.⁴

A 7-step protocol has been developed for the treatment of TMJ ankylosis:

- 1) aggressive resection of the ankylotic segment,
- 2) ipsilateralcoronoidectomy,
- 3) contralateral coronoidectomy when necessary,
- 4) lining of the joint with temporalis fascia or cartilage,
- 5) reconstruction of the ramus with a costochondral grafts
- 6) rigid fixation of the graft and
- 7) early mobilization and aggressive physiotherapy.⁵

Conclusion

TMJ Ankylosis characteristic features makes it very easy for diagnosis. But initial diagnosis and surgical intervention is required to get good prognosis. This can help such patients to ease in mastication which maily concerned with overall health of patient.

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