TMJ INTERNAL DERANGEMENT

DEFINITION: Anteromedial displacement of the interarticular disc associated with the posterosuperior displacement of the condyle in the closed jaw position.

ETIOLOGY: TRAUMA

- Microtrauma: bruxism, clenching
- Macro trauma

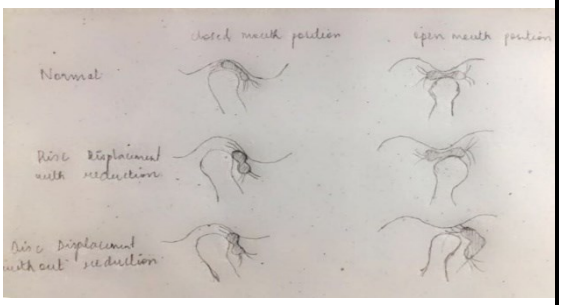
As a result of trauma there is elongation of capsular and discal ligaments and thinning of the articular disc.

PATHOGENESIS:

Normal	**Abnormal**
During normal mouth opening ⇩ Condyle translates forward, retro discal lamina tightens and the disc is rotated posteriorly ⇩ Interarticular pressure prevents the movement of the disc beyond the thicker anterior border and maintains it in thin intermediate zone	➢ when the retro discal ligament becomes elongated due to trauma the disc is free to move on the articular surfaces of condyle ➢ In a closed joint position, the superior lateral pterygoid will place the disc in a more forward position of the condyle, thus the condyle is not in relation to the thin intermediate zone of the disc in closed mouth position ➢ Patient experiences pain when biting as it activates lateral pterygoid and pulls the ligaments ➢ In this position, as the pt opens his mouth the disc slides back into the normal relationship with the condyle as it slips over the thick posterior band.

CLASSIFICATION:

Wilkes classification:
Functional classification



Stage 1: Early reducing disc displacement disc displacement with reduction

Stage 2: late reducing disc displacement disc displacement without reduction

Stage 3: non reducing disc displacement (acute / subacute)

Stage 4: non reducing disc displacement (chronic)

Stage 5: non reducing disc displacement (chronic with osteoarthritis)

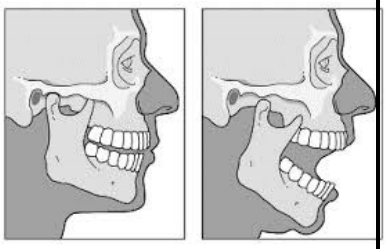
INVESTIGATIONS:
Clinical evaluation: history, physical evaluation (TMJ clicking, pain, limitation of mandibular opening)
Radiographic evaluation: MRI

CLINICAL FEATURES:
Disc displacement with reduction: This represents the early stage of disc displacement.in this case as the mouth opens, the condyle moves Forward. since the disc is deranged and placed in a more anteromedial position the condyle translates for a short distance in contact with the retrodiscal tissue and then slips over the posterior band and assumes its normal position in the thin intermediate zone this produces clicking sound on opening.
Clinical characteristics: Normal mouth opening Clicking sound Deviation of the jaw on opening
Management: nonsurgical -anterior repositioning appliances(splints), supportive therapy (soft diet, physical therapy for pain reduction)

Disc displacement without reduction: this is a condition in which the disc is antero-medially dislocated from the condyle and does not return to Its normal position with condylar movement

Clinical characteristics: Limited mandibular movements Normal lateral movements towards the same side Restricted lateral movement towards opposite side

Management: nonsurgical- manual manipulation, supportive therapy Surgical management – arthrocentesis, arthroscopy Arthrocentesis consist of TMJ lavage, placement of medication into the joint and examination under anesthesia.



TMJ DISLOCATION

Definition: Condition in which the condyle is placed anterior to the articular eminence with collapse of the anterior space. the condyleComes in contact with the anterior slope of the eminence and is unable to return to the closed position.

ETIOLOGY:

Intrinsic trauma :overextension injuries as in yawning, vomiting, seizures
Extrinsic trauma: endoscopy, dental extraction, intubation during LA
Connective tissue disorder
Psychogenic causes: habitual causes
Drug induced: phenothiazine

PATHOGENESIS:

Normal joint stability depends on:

•i. Integrity of joint ligaments: Laxity of ligaments, Capsular abnormality

•ii. Bony architecture of joint surfaces

•iii. Activity of muscles acting on the joint: Spontaneous dislocation is due to a break in the timing of muscular action in the first phase of closing Surgery of temporomandibular joints

CLASSIFICATION:

- Unilateral/bilateral
- Acute/chronic
- Habitual/recurrent

INVESTIGATIONS:
History Physical examination: Neurological and musculoskeletal disorders Radiological examination

CLINICAL FEATURES

Clinical presentation Bilateral dislocation

1. Pain 2. Inability to close mouth
3. Tense masticatory muscles
4. Difficulty with speech
5. Excessive salivation
6. A protruding chin
7. Open bite
8. A distinct hollow in front of the tragus Surgery of temporomandibular joint
9. The lateral pole of the condyle produces a characteristic protuberance anterior to and below the articular eminence.

Clinical presentation Unilateral dislocation

1. The mandible swung away from the side of dislocation
2. The deviation produces a lateral gross and open bite on the contralateral side.
3. Occlusion is protrusive
4. The hollow just in front of the tragus is present on the ipsilateral side. Surgery of temporomandibular joint

TREATMENT:

Nonsurgical: medications (NSAIDS, muscle relaxants), digital manipulation, psychological management, physical therapy, occlusal therapy, intermaxillary fixation
Surgical:1. Soft tissue procedures: Plication of the TMJ capsule and ligament, lateral pterygoid myotomy
2. Removal of obstruction - Retinectomy 3. Creation of translatory obstruction: Osteotomy of the zygomatic arch and down fracturing it below the articular eminence (Dautrey procedure)., Bone graft to articular eminence, Metal implants on articular eminence/arch area. 4. Tethering/ Anchoring: Placing a nonrecordable suture through the condyle and securing it to the root of the zygomatic arch 5. Mandibular osteotomies: condylotomy • vertical oblique osteotomy • high condylectomy

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