

Surgical Managements of the Temporomandibular Disease

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Temporomandibular joint (TMJ) is a unique synovial joint covered by fibrocartilage while other joints were covered by hyaline cartilage, its sometime nominated as cranio-mandibular joint because its articulating with glenoid fossa in the base of skull and consist from condyle, meniscus and glenoid fossa, the joint covered by capsule supported by TMJ muscles for reinforcement.

The synovial fluid of the capsule comes from synovial pharynges' used for lubrication and protein nourishments of the cartilage of the joint. The disc consist from 4 parts, elastic recoil fibers, posterior band, intermediate zone and anterior band which attach to upper part of the lateral pterygoid muscle while the lower part attach to condylar fossa, the posterior band usually in closed mouth located above the head of condyle, any disorganization between the upper part and lower parts of lateral pterygoid muscle causing click in the TMJ. There are two movements in the TMJ one active movements for masticatory function and passive movements for speech, swallowing, yawing and other functions.

The disease that required surgical managements and they are, condylar hyperplasia occurred during puberty due to over growth in the condyle or neck required high shave operation and an osteotomy for correction of jaw deformity and occlusion. Hypoplasia of the condyle might be occurred by trauma to condyle head during childhood this status causing under developed condyle and ramus, these cases were corrected by reconstruction of the joint by Kummoona chondro-osseous graft after excision of under develop and deformed condyle.

Other serious disease was ankylosis of the TMJ as stiff joints due mainly to trauma or extension of infection from middle ear during childhood causing severe deformity of the mandible and midface with unable to chew food with loosing of weight and anatomical deformity of the face and upper respiratory tract causing difficulty of intubation required guided tube manipulation or tracheotomy. In adult that was treated by Kummoona two parts prosthesis for restoration of function only, in children the cases required growth centre transfer for reconstruction by chondro-osseous graft for restoring function and growth of the mandible and midface.

More Diseases required surgical manipulation and reconstruction are Dislocation and Sub-luxation of the TMJ. Dislocation either acute required immediate manipulation by our new technique, the surgeon should stand behind the patient and the patient in chair with few drops of local anaesthesia in the TMJ and the surgeon should hold the body of the mandible and started to manipulate it by rotation and slight downward movement by using the angle as pivot you will found immediate jump of the condyle to its normal position in glenoid fossa and no more old technique of Hippo crate should be used because its destructive procedure.

In chronic dislocation where the condyle in the infra temporal fossa region with adhesion of the capsule with the surrounding tissue required surgical dissection of the capsule from the fibrous tissue in the temporal fossa usually this difficult procedure should be done under GA.

Cases with sub-luxation which is quieter annoying to the patients specially the chronic type, these cases more common in Yemen and Somalia due to continuous chewing of Qat as a habitual habits, the mandible was unstable with shaking due to Qat amphetamine action, person chewing Qat in the beginning became alert and active after few hours he became sleepy. The managements required surgical reconstruction of the capsule by using finger like shape inferiorly based of temporo-fascial flap, was rotated to cover the lateral and anterior wall of the capsule for re enforcement and a piece of bone impacted after ostectomy anterior to articular eminence to work as obstacle to prevent condylar movement beyond eminence.

The Managements of First Arch syndrome required many surgical procedures started by reconstruction of zygomatic arch by bone graft and reconstruction of glenoid fossa by cartilage from opposite normal ear. The second stage by commissuroplasty and removal of tags in front of the ear, the third stage to reconstruct the atrophied masseter muscle by platysma flap, the fourth stage by reconstruction of the ramus and the condyle by Kummoona Chondro-Osseous graft and the last stage for reconstruction of the ear and orthodontic treatment for correction of occlusion.

Osteoarthritis disease of elderly of systemic disease, patients usually complain from pain in the joints and un able to chew food due to destructive procedures in the condyle with erosion of articular surfaces and cleft formation and osteophyte formation in the periphery of the condyle. Early disease the management before became advanced we might use few drops of Depo-Medrol injection of 80mg in the TMJ and repeated three times. Once the case became more advance, we recommend high shave operation with removal of osteophyte and a small sheet of Sialastic implant inserted to work as disc function to prevent rubbing between the head of condyle and glenoid fossa.

Finally click in the TMJ was due to in coordination in movement between the upper part of the lateral pterygoid and lower part of the muscle. This was treated by Bite Raising Appliance of 2 mm thickness to be fitted on upper jaw the aim was to bring the posterior band of the disc to be sited on the head of condyle.

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