

CBCT scan (Medium FOV) of the right & left TMJ was performed in closed mouth position. Image processing in 3D was performed with On-Demand 3D™ s/w. 3D, cross-sectional images is provided with On-demand view s/w on CD.

H/O restriction in mouth opening since 3 years; trauma to the jaw 4 years back.

Right TMJ:

- Old malunited fracture of the condylar head and neck is noted. There is antero-inferior displacement of the condyle with osseous bridge formation at the lateral pole of the fractured condylar head- the lingual aspect of the sigmoid notch and also at the base of the neck and the lingual surface of the ramus region inferior to the sigmoid notch.
- There is deformity, exuberant and excessive new bone formation with regular margins at the superior aspect of the fractured ramus w.r.t. the anterior, medial, lateral and posterior poles; largest on the lateral and posterior poles. There is resultant central concavity and formation of new functional articular surface that articulates with the temporal component of TMJ.
- The hypertrophy measures approx. 1.5cm x 1.3cm x 1.0 cm in greatest antero-posterior x transverse x supero-inferior dimensions respectively.
- There is dense sclerosis of the newly formed bone, the mid- and superior ramus and coronoid process.
- Old healed oblique fracture of the right coronoid process is also noted.
- There is non- uniform lucent joint space noted in the right TMJ with minimal space noted medially. However, there is no evidence of fusion.
- There is excessive new bone formation and sclerosis at the articulating surface of the squamous portion of the temporal bone and distal aspect of zygomatic process of the temporal bone.
- The newly formed bone shows multiple extensions to interdigitate with the excessively formed bone at the superior margin of the fractured right ramus. There is anterior and posterior extension along the lateral- half of the new condylar head and also in the centre of the concavity.
- Roughening of the articular surface of the temporal component is also noted.

Left TMJ:

- The left condylar head morphology is plano-convex in shape axially.
- The left condyle shows flattening & roughening of the articulating surface.
- The thickness of the roof of the glenoid fossa varies from 0.4- 0.9mm.*

Evaluation of the maxilla & mandible:

- Generalised mild to moderate periodontal bone involvement is noted.
- **16 & 17:** Partial buccal coronal effacement upto the pulp chamber is noted; mild apical periodontitis is also noted.
- Residual root of 14 & 36 is noted.
- Early caries is noted with the 48.
- Proclined upper and lower anterior teeth with slightly increased anterior overjet and overbite is noted.
- Shadow of the removable partial denture is noted w.r.t. the lower anterior edentulous ridge and right lingual flange.

Nasal Cavity & Maxillary Sinuses:

- Deviation of the nasal septum to the left side is noted with an osseous spur indenting the left inferior turbinate.
- Pneumatisation of the right middle turbinate is noted.
- Minimal mucosal thickening of the maxillary sinuses is noted bilaterally.

IMPRESSION:

Old malunited fracture of the condyle is noted with antero-inferior displacement and fusion along the lingual aspect of the sigmoid notch. There is deformity, exuberant and excessive new bone formation with regular margins at the superior aspect of the fractured ramus along the poles with resultant central concavity and formation of new functional articular surface. There is dense sclerosis of the newly formed bone, the mid- and superior ramus and coronoid process. There is non- uniform lucent joint space noted in the right TMJ with minimal space noted medially without any evidence of fusion. There is excessive new bone formation and sclerosis with remodeling at the articulating surface of the squamous portion of the temporal bone and distal aspect of zygomatic process of the temporal bone. The newly formed bone shows multiple extensions to articulate with the functional articular surface of the ramus.

These findings represent pseudo-joint formation without any obvious evidence of osseous ankylosis of the right TMJ. Clinical correlation is advised to rule out fibrous ankylosis of the right TMJ.

*K Matsumoto et al. The thickness of the roof of the glenoid fossa in the temporomandibular joint: relationship to the MRI findings. Dentomaxillofac. Radiol. 2006 35: 357-364.