



GANGLION CYST OF TEMPOROMANDIBULAR JOINT: A RARE CASE REPORT AND DISTINCTION FROM THE SYNOVIAL CYST

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ABSTRACT

Ganglion cysts of the temporomandibular joint are very rare and most of the time misdiagnosed as synovial cyst, parotid gland pathology. Both the cysts are expansile, fluid-filled lesions of the joints, mostly seen in wrists, knees, and feet but scarce in TMJ. These lesions usually present with pain and swelling. Ganglion cysts are pseudocysts characterized by a fibrous connective tissue lining that lacks synovial cells and contains a thick gelatinous material. The etiology mostly long-term irritation and trauma and might involve myxoid degeneration or softening of the collagen and connective tissue. The authors report a ganglion cyst of the TMJ in a 56-year-old man, who experienced pain and swelling along with a prominence in the right TMJ region, anterior to the tragus. This article, discusses about the differential diagnosis, management and histological characteristics of Ganglionic cyst and its distinction from synovial cyst.

KEYWORDS : Ganglion cyst, synovial cyst; Temporomandibular joint

Introduction- Ganglionic cyst mostly occurs on extensor surface of wrist, dorsal surface of foot, lateral aspect of knee. [1] Due to their anatomic location TMJ cyst are usually confused as parotid mass. These cystic structures are divided into two types according to histopathological examination. Those with wall consist of fibrous connective tissue are called as Ganglionic cyst and if they are lined by synovial cells then coined as synovial cyst.[2] These cysts of TMJ are a rare entity and wrongly considered as synonyms.[4,5] Clinical diagnosis is difficult until intraoperative observation and postoperative histopathological examination is carried out. In this article case of Ganglionic cyst of TMJ is presented, differential diagnosis, histological characteristics and management are discussed. Meanwhile, the published articles about the ganglion cysts of the TMJ are also reviewed and distinction from synovial cyst is pointed.

Clinical Examination – A 56 year old Indian male referred to our department with complain of swelling and painless mass in right preauricular region since 6months with no relevant medical history found. History of direct blow to right preauricular region 10 year back was reported. He had parafunctional habit of both nocturnal and diurnal bruxism, due to which volume of masseter was increased. Clinical examination revealed 1cm*1cm mass at right preauricular region. Mass was smooth, firm in consistency, tender to palpation and prominent on maximum mouth opening. Occlusion and mouth opening was perfect with no regional lymphadenopathy.

Radiographic Examination-On conventional panoramic radiograph the bone architecture was normal indicating that the lesion was not of bony origin but it showed a 1cm *1cm radiolucent lesion lateral to right condyle. [Figure 1] Three dimensional computed tomography shows normal contour of right condyle.

Fine needle aspiration Cytology-On FNAC the aspirate was a little gelatinous so the differential diagnosis made by us was Ganglionic cyst, synovial cyst.

Surgery- Under all aseptic measure & general anesthesia, preauricular incision made on the right side to expose the mass.

Small cyst like lesion identified adjacent to lateral portion of right condyle, which was adhered to the capsule of TMJ. [Figure 2] Mass is dissected carefully from TMJ capsule and excised completely. Then the site sutured in layers. Postoperative period was uneventful. On follow up visit facial nerve function was assessed showing no damage and till six month there is no recurrence.

Histopathology-Macroscopic examination showed 1*1*1cm mass. Mass was light brown in colour and elastic soft in consistency. It was covered by capsule and containing jelly like yellowish material. [Figure 2] Microscopic examination showed the wall of lesion comprised fibrous connective tissue with areas of hyalinization on inner aspect by thin flattened cells. Suggestive of cystic structure. [Figure 3]

Immunohistochemical staining of lining cells showed negative reaction to S-100 and factor viii and positive reaction to vimentin. Histochemical staining with alcian blues showed area of myxoid degeneration. All these characteristics go with the diagnosis of Ganglionic cyst.

Discussion- The terms synovial cyst and ganglion cyst have been used interchangeably and are considered to be synonymous in the past. Patient's general complaint is swelling and sometimes pain[3] Because of its anatomic location and rarity accurate diagnosis is not usually made preoperatively[7] Basic imaging includes panoramic radiograph computed tomography. Magnetic resonance imaging and ultrasound of TMJ can also be done. [1, 2, 4, 7, 9]

Although both Ganglionic and synovial cyst occurs after macro /Micro (bruxism) trauma which leads to increase intracapsular pressure causing degeneration of surrounding connective tissue only synovial cyst is associated with primary inflammatory process [18]

Ganglionic cyst was first reported in 1977 by Heydt. [6] It is a pseudocyst with fibrous tissue lining that arises from myxoid degeneration and cystic softening of the collagenous tissue of a joint capsule[15] It contains clear, high-viscosity gelatinous fluid rich in hyaluronic acid and other mucopolysaccharides[16] Different from synovial cyst, it does not communicate with the adjacent joint

cavity [17]

Synovial cyst was first described by Baker in 1885 [8] It is a true cyst lined by cuboidal or flattened cells from the synoviocytes and is filled with gelatinous fluid [11] It may or may not communicate with the joint cavity. The pathogenesis of the synovial cyst may arise from the embryonic displacement of synovium and herniation of the synovial lining into the surrounding tissues [12]

Immunohistochemical results of the lining of these lesions in the study of Nablieli et al were helpful in final diagnosis. Ganglion cyst shows a positive reaction to vimentin, a mesenchymal marker, but negative to cytokeratin, an ectodermal marker and vice versa for synovial cyst. Therefore, immunohistochemical staining could be one of the useful tools to differentiate the cysts [19]

We reviewed Twenty-five cases reported of ganglion cysts of the TMJ. They all were unilateral. The average age of the cases was 45 years (22–66 years) and more common in females than males (3.8:1) with average diameter of 14.2 mm (6–30 mm). Occurrence in right TMJ to that in the left TMJ was (1.8:1). The chief complaint for all the cases were swelling and pain or painless in the preauricular region without any restriction in mouth opening. There is no history of recurrence mentioned in any of the case report.

In this case both history of micro and macro trauma is noted. On the basis of histopathological and Immunohistochemical report this lesion is Ganglionic cyst according to Nahlielic et al suggestion [4] Surgery is mainstay treatment if the lesion is excessive painful But if it is diagnosed early conservative management can be done. Aspiration and injection of hydrocortisone may be done for recurrent cases [13, 14]

Thus present report adds one more case to the scanty number of publication concerning ganglion cysts of TMJ.



Fig 1. Panoramic radiography revealing an oval-shaped radiolucent lesion adjacent to right TMJ



Fig 2. Surgical exposure of the lesion & gross specimen

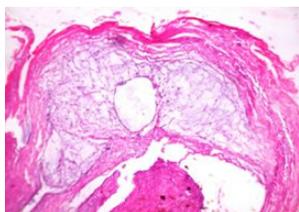


Fig 3. Histological examination with H&E ×200

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