Aneurysmal bone cysts (ABCs) involving condyle are unusual clinical presentation affecting younger group of society with only 12 cases reported till today in English literature. In this case of ABC condyle following resection, reconstruction of temporomandibular joint was done by alloplastic condylar prosthesis as a primary choice. Monthly basis follow-up was done for 1-year with a successful result. Reviewing the reconstructive options used in ABC condyle cases we found that the condylar head add-on system has shown a satisfactory result in comparison to costochondral graft with no donor site morbidity. We recommend condylar head add-on system should be preferred as a primary reconstructive option, reserving the autograft for recurrence cases.

Key words: Aneurysmal bone cyst, aneurysmal bone cyst mandibular condyle, condylar prosthesis, metallic condylar head add-on system

Unusual mandibular condylar pathology (ABC) which was treated by resection and metallic condylar head add-on system (Ortho Max, India) as a primary reconstructive option.

Case Report

An 18-year-old female reported to our center with the chief complaint of swelling in the region just in front of right ear from 5 months with no history of previous trauma to the region.

Clinical examination revealed a smooth, firm, but diffuse swelling of size 4 cm × 4 cm (approximately) was
present in the right preauricular region [Figure 1]. On examination, there was the presence of mild tenderness, deviation of mandible on opening, and nerve of facial expression was unaffected. Mouth opening was mildly reduced to 26 mm.

On investigation, hemogram showed Hb 12 g%, total leukocyte count 8200 cells/cmm, total platelet count 2.2 lac/cmm and DC showed polymorphs 74%, lymphocytes 20%, eosinophils 6%. The serum alkaline phosphates 177 IU/L, serum phosphorus 3.5 mg/dl and serum calcium (ionized) 1.09 mmol/L were within normal limits. On panoramic examination, there was a radiolucent lesion in the area of right mandibular condyle. Further imaging with computed tomography (CT) revealed a 3.4 cm × 3.3 cm sized expanded, cystic lesion of the right mandibular condyle with septa and fluid levels, suggesting a diagnosis of ABC [Figure 2].

Extraoral approach was used for gross condylar resection with the articular disk in place and alloplastic metallic condylar head add-on system [Figure 3] as a primary reconstructive option. Histopathological examination of resected condyle revealed a wide fibrous stroma with cystic spaces lined by uneven band of fibroblasts, stromal cells, and osteoclastic giant cells with hemorrhage in lumina of cysts suggestive of ABC [Figures 4 and 5]. Forty-eight hours postoperatively, an active mouth exercise was conducted for 3–4 times a day for 2 weeks. On postoperative evaluation, all the branches of facial nerve were functioning normally [Figure 6]. The patient has been reviewed on a monthly basis for 1-year without any signs of discomfort and recurrence [Figure 7] with the satisfactorily functioning condylar head add-on system, normal mouth opening [Figure 8], and mandibular border movements.

**Discussion**

The ABC is a benign solitary osseous lesion recognized as a distinct clinicopathological entity by Jaffe and Lichtenstein in 1942.[4,5] Various theories where put forward like trauma, alteration of local hemodynamics, subperiosteal intraosseous hematoma, and secondary phenomena occurring in primary cystic lesions of bone and tumors[4] but, the etiology of ABC still remains elusive and unclear.

The ABC has been classified as primary and secondary were primary may be divided into congenital or acquired type.[1] Histopathologically, the vascular variant is more common and consists of about 95% of total cases of ABC while the solid type is rare, occurring in only 5–8% cases.[4]

The clinical signs and symptoms of ABC are nonspecific and do not lead to any clinical diagnosis. Similarly in this case also, there was presence of swelling, asymmetry and associated pain secondary to temporomandibular joint dysfunction,[7] CT scan showing different fluid levels...
and histologically, blood-filled spaces within connective tissue stroma, and osteoclastic multinucleated giant cells which is pathognomonic of ABC together has led to the definitive diagnosis of ABC.

Zadik et al. concluded that block resection has shown comparatively good results with minimal recurrence (20% comparing to 60% in curettage) and also recommended close postoperative follow-up of at least 12 months especially on condylar involvement as recurrence of condylar ABCs (40%) was comparatively higher than noncondylar jaw ABCs (13%).[7] In this case also after following similar protocol, the outcome was satisfactory at the end of 1-year.

Comparing the results of 8 cases of reconstruction in ABC condyle including this case [Table 1][5-7,9] we found that, 62.5% cases has gone for costochondral graft either as a primary or in recurrence cases as a reconstructive option, while 25% cases has taken condylar prosthesis as an reconstructive option. Ettl et al. used condylar head add-on system in recurrence case with satisfactory results over a period of 8 months. Marx et al. with a large series (131 cases) of alloplastic condylar replacement reported the complication rate of 10.6% over a minimum follow-up period of 3 years.[10] Our results matched with these studies [Table 2] represent the postoperative 1-year status of the patient.
Findings from this cases states that, bypassing the risk and morbidity of donor site especially in female patients were donor site is a surgical dilemma for surgeon and patient both; metallic condylar prosthesis can be used as a satisfactory alternative to autograft in primary condylar reconstruction. However, we recommend a longer follow-up for better evaluation of function and complications if any.

**Conclusion**

Condylar head add-on system has shown promising and satisfactory results with avoiding obvious disadvantages of autograft like surgical risk and donor site morbidity. It can be considered as a preferred primary reconstructive option, reserving the autograft for recurrence cases.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflict of interest.

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