Isolated osteochondroma near the mandibular angle

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Abstract: A benign tumor of osseous and cartilaginous origins, osteochondroma generally develops in osseous tissue and is frequently found near the end of long bones. It is relatively rare in the oral and maxillofacial region but is common in the mandibular condyle and coronoid process in the pediculate form. We report on a rare case of osteochondroma in soft tissue near the mandibular angle without pedicle to the bone.

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Osteochondroma is one of the most common benign tumors of the axial skeleton, originating in osseous and cartilaginous tissue. It generally arises in osseous tissue and is commonly found near the ends of long bones. Relatively rare in the craniofacial region, osteochondroma is common in the mandibular condyle and coronoid process in pediculate form. To the best of our knowledge, no cases have been reported of osteochondroma arising in soft tissue without continuity with maxillofacial bone. In this paper, we report on a case of osteochondroma arising in the upper cervical region, submandibular area. The discussion addresses the tumor origins.

Case report

A 32-year-old Japanese woman was referred to our hospital, seeking examination of and treatment for a calcifying opaque lesion near the left mandible angle first identified by her dentist through a routine X-ray examination. The patient exhibited no subjective symptoms. Her face was symmetrical, and findings in the oral and maxillofacial region were unremarkable. The patient had no history of trauma at the mandibular or cervical region. Computed tomography showed an isolated bony mass under the deep part of the parotid gland, without continuity with mandibular bone (Fig 1).

A clinical diagnosis of osteoma of the upper cervical region was made and surgical resection of bony mass performed under general anesthesia. Located at the anterior border of sternocleidomastoid muscle and surrounded by connective tissue, the tumor had no contact with the mandibular bone and was easily removed. The eliminated specimen was a hard oval mass measuring 14-16mm, with a smooth, opalescent surface and without fibrous capsules. Histology revealed the characteristic features of osteochondroma: cancellous bone proliferation and the presence of a cartilage cap (Fig 2), on which basis a diagnosis of osteochondroma of the upper cervical soft tissue was made. The patient showed no signs of recurrence during the two-year period following the surgical procedure.

Discussion

The tumor in this case was located in cervical soft tissue, and no obvious continuity with the mandibular bone was found in CT images or during the procedure itself.

Osteochondroma is the most frequent of the osteogenic tumors of the axial skeleton, with a incidence exceeding 50% for all cases.1 Since the majority of the bones in the maxillofacial region develop through intramembranous ossification, this tumor is rare in the facial bones. Reports indicate that osteochondroma arising in the coronoid process, mandibular condyle, mandibular symphysis, or a posterior and anterior part of the maxilla arise from and show continuity with the cortex of the facial bone.1 Ward B.B. et al. report that solitary osetochondromas are exophitic lesions of bone arising from the cortex and are generally covered with fibrous connective tissue. In our case, the tumor was situated in cervical soft tissue without obvious connection to any facial bone. These characteristics make this case unusual.

Although many theories3-8 address the pathogenesis of osteochondroma, it remains unclear whether such lesions are developmental, neoplastic, or reparative. There are four possibilities in our case. The lesion arose in the inferior border of mandibular bone before splitting off; the mass developed from the heterotopic remnants of Meckel□s cartilage

within the first branchial arch; 5-8 the tumor represented a developmental malformation in which osteocartilaginous tissue foci developed from the stylomandibular ligament; or the lesion involved osteocartilaginous differentiation and development of ectopic mesenchymal cells. 5-7Identifying the origin poses obvious difficulties.

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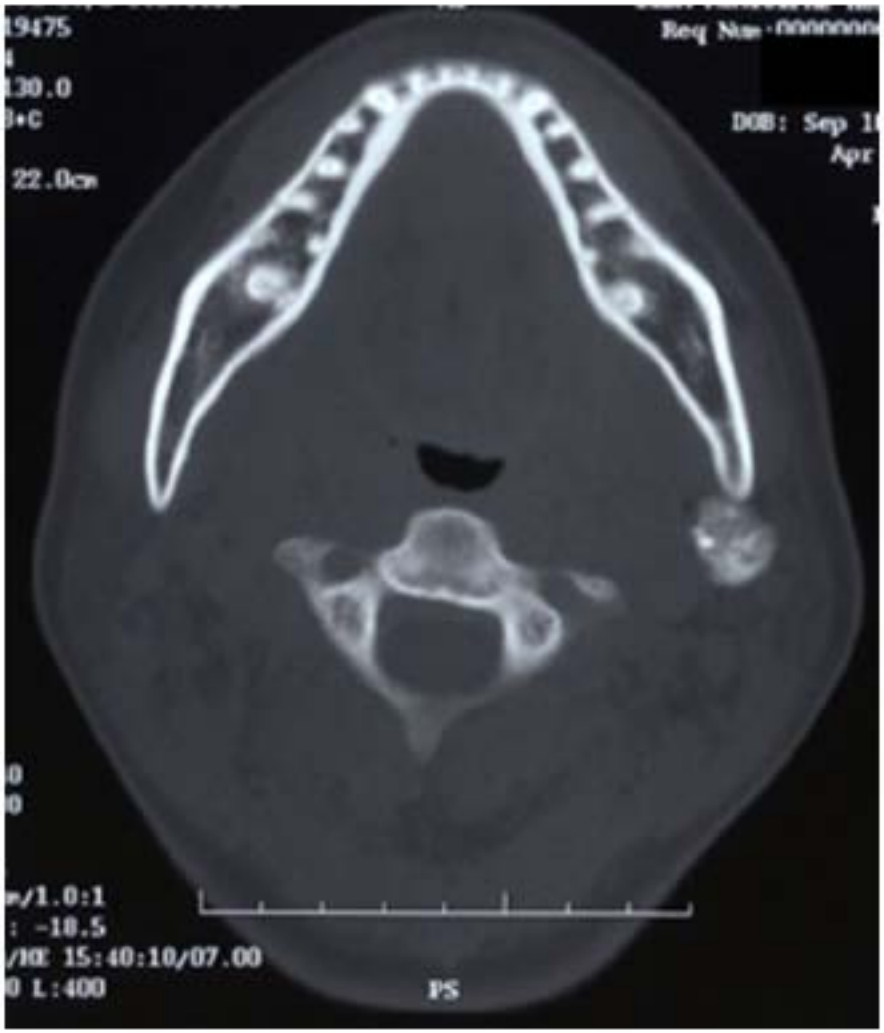

Fig.1. Computed tomographic findings.
There was no continuity between the tumor andmandibular bone.

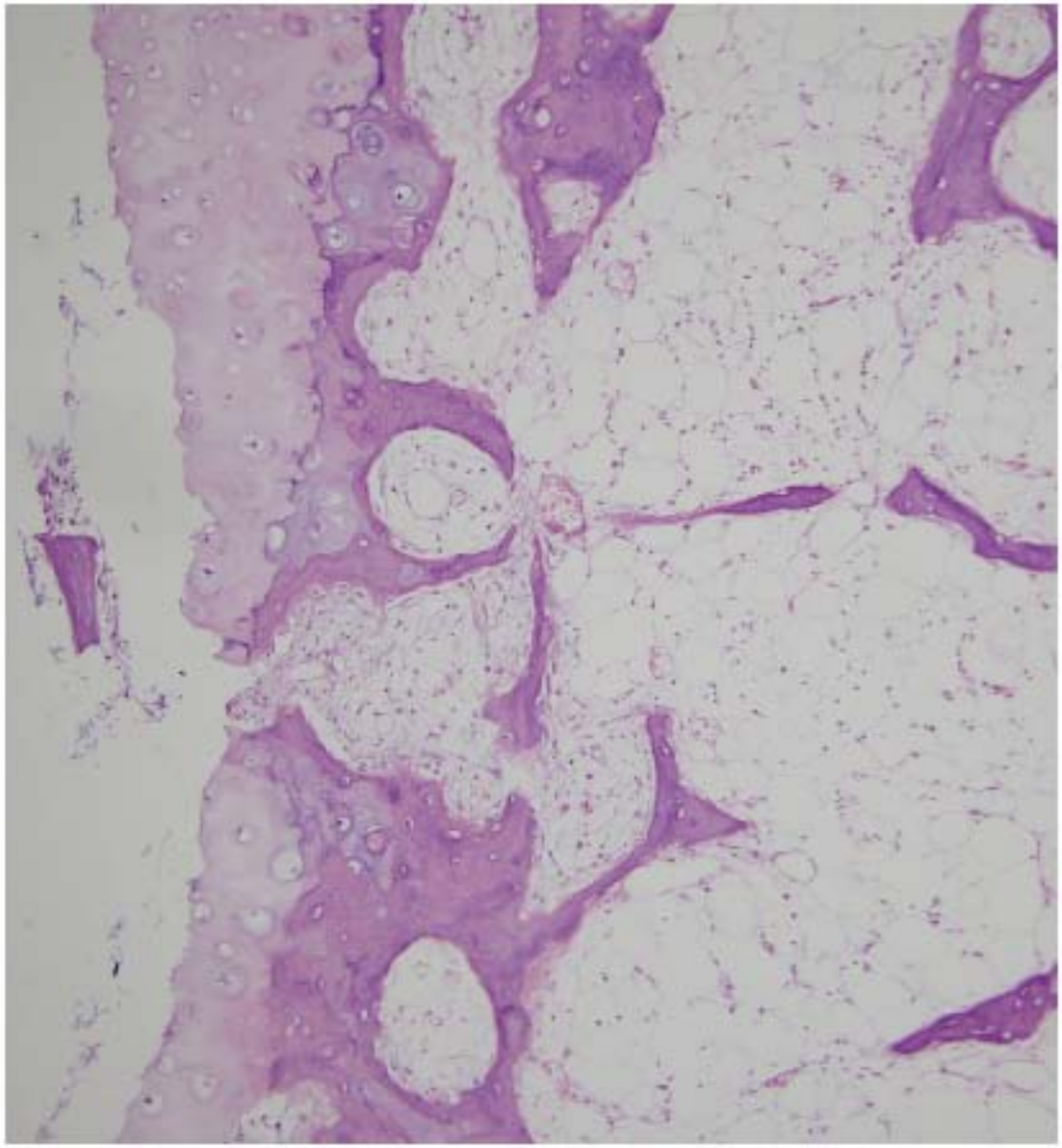

Fig.2. Histopathological examination findings.
The tumor consisted of proliferative cancellous bone tissue and a cartilage cap.
(hematoxylin and eosin)