OSTEOCHONDROMA OF THE CORONOID PROCESS OF MANDIBLE

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INTRODUCTION

Osteochondroma also known as osteocartilagenous exostosis is one of the most common benign tumor of long bones, but rarely found in facial skeleton[1]. In head and neck region it has been reported in cranial base, posterior surface of maxilla, maxillary sinus, and different areas of mandible including condyle, coronoid process, ramus, body and symphysis[2]. It is one of the cause of severely limited mouth opening[3]. Osteochondroma of coronoid process sometimes forms an extra-ordinary pseudo-arthrosis joint with zygomatic arch, this condition is called Jacob's disease[4].

The purpose of this paper is to describe another case of osteochondroma coronoid process of mandible and review of available literature.

CASE REPORT

A 15 years old male reported in May 2008 to Oral and Maxillofacial Surgery Department Armed Forces Institute of Dentistry Rawalpindi with complaints of gradual limitation of mouth opening for the last 03 years and swelling right side of the cheek area. There was no history of facial trauma and any relevant systemic disease.

On physical examination a swelling measuring 3x2 cm of hard consistency noticed overlying right zygomatic bone while inter-incisal distance of 10mm recorded.

Radiographic examination including panoramic view, PNS view and Submentovertix view showed cauliflower shaped radio-opacity right coronoid process. Computed-tomography in axial and coronal planes and its 3 D reconstruction demonstrated cauliflower shaped enlargement of coronoid process, the expanded end forming a pseudo-joint with posterior surface of zygoma and postero-lateral surface of orbit, CT scan concluded the lesion to be osteochondroma. The maxillary sinus was intact; however head of the right condyle was relatively atrophic.

On basis of clinico-radiographic assessment provisional diagnosis of osteochondroma right coronoid process of the mandible was made. The patient was advised admission in ward, surgical resection of the tumor under general anesthesia after routine investigations and pre-anesthesia was planned. Informed consent Performa get signed by the patient including permission for pre operative, Intra-operative and post operative photographs and its publication in medical journals for research purposes.

Under aseptic conditions and general anesthesia via nasotracheal intubation, intra-oral anterior ramus incision was made. The periosteum was incised along external oblique ridge, reflected buccaly and lingualy. The temporalis muscle was stripped from coronoid process by blunt dissection. The coronoid process dissected free and coronoidectomy done. The wound was closed with 3 0 vicryl in layers (Fig. 1).

The excised specimen sent for histopathalogical examination and diagnosis of osteochondroma coronoid process of the mandible measuring 35x25x15 mm, with no evidence of malignancy was confirmed (Fig.2).

After surgery mouth opening was encouraged with wooden spatulas and inter-incisal opening of 28mm achieved on 3rd post OP day. The patient was kept on regular

Fig.1 : Intra-OP exposure

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Fig.2: Excised mass of the tumor

monthly follow-up.

DISCUSSION

Osteochondroma unlike axial skeleton is uncommon in maxillofacial region, grows very slowly, its growth stops with cessation of epiphyseal cartilage growth[5]. The reason for this rare occurrence is the intra-membranous development of facial bones. It can occur at base of the skull, maxillary sinus, zygomatic arch and mandible[6]. Mandibular osteochondromas predominantly involve condylar and coronoid processes[7]. Osteochondroma of coronoid process sometimes forms an extra-ordinary pseudo-arthrosis joint with zygomatic arch, this condition is called Jacob's disease[4].

It is reported to be more common in males, usually less than 40 years of age, mostly mushroom shaped and causing deformity of associated structures in most of the cases[2]. Limited mandibular movements appear to be an easy symptom to detect during clinical examination, however, relating this event to a specific cause is more complex[7]. It is rarely diagnosed earlier, usually associated with progressive limitation of mouth opening, palpable enlargement of coronoid process, facial asymmetry, ipsilateral deviation of mandible on opening and TMJ pain[5]. It is one of the cause of severely limited mouth opening[3]. Slow development of trismus and painless facial mass typify osteochondroma of coronoid process[2].

Various surgical approaches are being used for its resection. One is zygomaticofacial approach but poor esthetics and damage to branches of facial nerve are main dis-advantages. Intra-oral approach is the best, safer and allows complete removal of the tumor but is limited in case of severe trismus[3]. Other approaches are bi-coronal[8], sub-mandibular[7], hemi-coronal[9] and combination of intra and extra-oral incisions[8].

Histopathalogical assessment of osteochondroma shows presence of chondrocytes of cartilaginous cap arranged in clusters parallel to lacunars spaces similar to that of normal epi-physeal cartilage, regular bony trabaculae produced by endochondral ossification are seen. Exostosis is covered by periosteum that is continuous with that of adjacent bone[6].

It has very slow and benign course yet histopathalogical examination showed reactive changes confusing with sarcomatous transformation[2]. Osteochondroma can be sessile or pedunculated, former more likely to be malignant and the chances are more if cartilaginous cap exceeds length from more than 2cm[8]. It has not been concluded whether osteochondroma is a neoplasia or an osseous repair[2]. The malignant potential and risk of recurrence are rare[6].

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