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Surgical Excision of Temporal Bone Osteoma For Cosmetic Purpose

[1]Dr K S Manjunath, Department of oral and maxillofacial surgery Sri hasanamba dental college and hospital vidyanagar Hassan Karnataka india

[2]Dr Bindhu Ghorpade, Department of oral and maxillofacial surgery Sri hasanamba dental college and hospital vidyanagar Hassan Karnataka india

[3]Dr Fathima Shamra, Department of oral and maxillofacial surgery Sri hasanamba dental college and hospital vidyanagar Hassan Karnataka india

[4]Dr Nivedita sajeev, Department of oral and maxillofacial surgery Sri hasanamba dental college and hospital vidyanagar Hassan Karnataka india

Corresponding Author: Dr Bindhu Ghorpade, Department of oral and maxillofacial surgery Sri hasanamba dental college and hospital vidyanagar Hassan Karnataka India

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Abstract

Temporal bone osteoma is a unusual neoplasm which transpires due to proliferation of compact or membranous bone, it is slow growing, bony hard and asymptomatic lesion,Surgical excision of the tumor are performed only if its symptomatic or for cosmetic purposes . Here is a case report of a female patient with pain free swelling in temporal region since 2 years, She was asymptomatic with facial disfigurement for which surgical excision of the temporal bone osteoma was accomplished under general anaesthesia using modified hemicoronal approach in our hospital. Postoperatively patient was self satisfied with the result and systematic work through done for 4 years clinically and radiographically.

Keywords: Temporal bone Osteoma, Surgical excision, peripheral osteoma,central osteoma

Introduction

Osteomas are slow growing and asymptomatic benign tumors, they are categorized into three entities, central, peripheral and extra skeletal, Central osteomas emerge from the endosteum, peripheral osteoma from the periosteum, and extraskeletal soft tissue osteoma occur within a muscle.[1] Osteomas are solely found in intra membranous bones such as skull, facial, and jaw bones.[2] It can eventuate at any age but most habitually found in individuals above 40years.[3] males are pretentious for a greater extent with compact osteomas and females are pretentious with cancellous osteomas.[3] Radiographically the lesions are visualised as a well-circumscribed radiopacity.[4] Computed tomography is the best imaging modality for the interpretation of osteomas.[5]

Materials And Methods

Case Report

A female patient aged 44yrs reported to Department of oral and maxillofacial surgery with a chief complaint of swelling in her right temporal region since 2 years, The swelling was painless with a increase in size gradually, heaviness felt over the same region and disturbances during supine position, There was no family history or history of trauma, no symptoms of inflammation or

headache, Treatment was mainly concentrated for cosmetic purposes, Extra oral examination revealed measuring approximately 4 x 4 cm swelling over the right temporal region. It was hard, non-tender with no overlying skin changes, On radiological examination Submentovertex view revealed radiopaque mass determining approximately 3.5 x 4 cm commencing from right temporal region and Plain CT scan reported well defined lobulated homogenous sclerotic mass transpiring from squamous and mastoid parts of temporal bone and protruding out externally pushing the cutaneous and muscular planes Diagnosis of benign right temporal osteoma was made based on history, examination and radiological findings, This was confirmed by a histopathological report, We proceeded with excision of the temporal osteoma, Under general anesthesia ,surface markings was done for the incision through modified hemicoronal approach , A local anaesthetic with adrenaline was infiltrated along the incision line to facilitate dissection and minimize blood loss, curved artery were placed 1 cm behind the incision line for the purpose of haemostasis, The incision was given parallel to hair follicles through the skin, galea into the loose areolar plane and leaving the periosteum intact, on further dissection inferiorly the temporal bone osteoma was exposed, and the osteoma was measuring of about 3.5 x 4 cm intraoperatively , surgical excision of the temporal osteoma was done by extirpating from its base as there was a existing cleft between the osteoma and temporal cortex. The wound was closed in layers using 3.0 vicryl for deeper layers and 3.0 Ethilon for skin ,surgical vacuum drain was placed prior to closure to facilitate the drainage of postoperative oedema and a pressure dressing is placed, patients received antibiotics and analgesics postoperatively for 5days intravenously. Pressure dressing was given and suction drain were removed after 48 hours postoperatively when the contents were less than 15ml. Histopathological studies revealed Dense lamellar bone with little marrow or trabeculae of lamellar bone with prominent fibro-fatty marrow variable osteoblastic activity suggestive of a right temporal bone osteoma, systematic work through done for 4years clinically and radiographically.

Discussion

Frontal ,Ethmoid and maxillary sinuses are affected in a greatest extent by peripheral osteoma.[6,7] Though the exact causation and pathogenesis of osteoma is still obscure, the most practicable etiological factors can be traumatic, congenital, inflammatory, and endocrine causes.[2] Additional reported locations in craniofacial sites comprises the external auditory canal, orbit, temporal bone, pterygoid processes, and, seldom, in or on the jaws.[8,9,10] Histologically, osteomas have two definite variants, One is comprised of relatively dense compact bone with least medullary tissue, while the other has lamellar or cancellous bone trabeculae with abundant medullary spaces of fibrous-adipose tissue.Osteoblastic activity is usually prominent.[9,11] The peripheral osteoma is of two distinct types.[12] The compact or “ivory” osteoma, routinely has a sessile base, typical dense bone with least marrow spaces, and copious haversian canals, The dimension of the osteoma confines from several milimeters to several centimetres,The cancellous osteoma is often pedunculated and mimics the bone of origin. It will accomodate trabeculae of bone and fibrofatty marrow with osteoblasts. The surface can be irregular or smooth, with cortical bone at the margin.[4] Radiographic Imaging of PO can be effectuated by CT scan , The utilization or advantage of CT scanning with 3-D reconstruction construct to attain a better resolution and more accurate localization.[13] Treatment for osteoma can be abandoned if it doesn’t hamper the function, In necessary situations

surgical excision is an utmost treatment of osteomas.[14] Surgery is obligatory when the lesion is symptomatic and for cosmetic purposes, The surgical approach should be case specific For the temporal, frontal and fronto-orbito-ethmoidal lesions the coronal or bi-coronal approaches have been traditionally used, However, these necessitate an substantial amount of dissection, and convey the potential for significant morbidity, particularly considering that the lesion to be resected is benign, The use of the endoscopic nasal approach for the resection of ethmoidal and frontal osteomas have been the latter day reports.[15] Patients with osteomas should be inspected and investigated for Gardner's Syndrome ,triad of colorectal polyposis, skeletal abnormalities, and multiple impacted or supernumerary teeth is harmonious with this syndrome.[16,17] Exostosis, osteoid osteoma, osteoblastoma can be incorporated as the differential diagnosis of PO.[18] Recurrence after osteoma surgery is uncommon.[19] however, Bosshardt et al.[20] reported one case of recurrence nine years following surgical excision, This designate the requirement for long standing radiographic and clinical follow up succeeding the surgery.

Conclusion

Elective treatment of osteoma is surgical excision at its base where it unites with the cortical bone, Recurdesence amount is limited if its thoroughly excised from its base,and prolonged work through is mandatory.

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Legends Figures

Pre Operative Photographs

Figure 1: Preoperative bird s eye view

Figure 2: Preoperative profile view

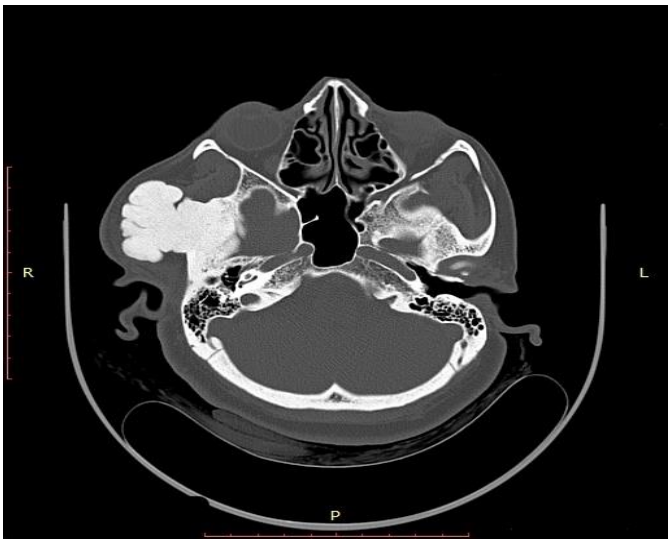

Figure 3: Preoperative CT (axial view)

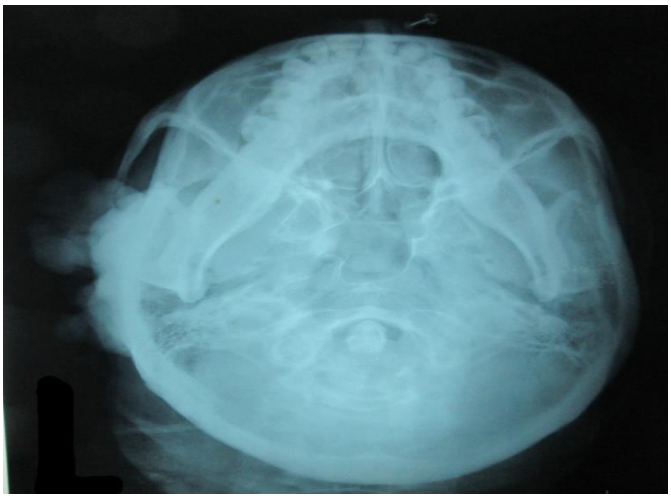

Figure 4: Preoperative submentovertex view

Intraoperative photographs

Figure 5: Incision

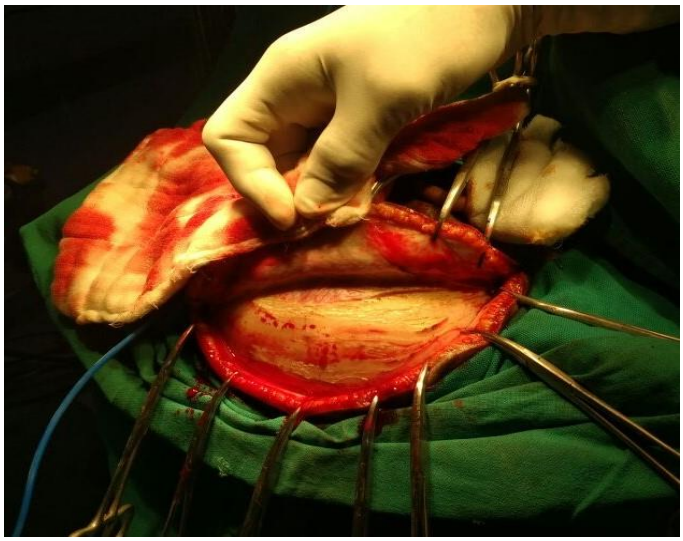

Figure 6:Hemicoronal flap reflected

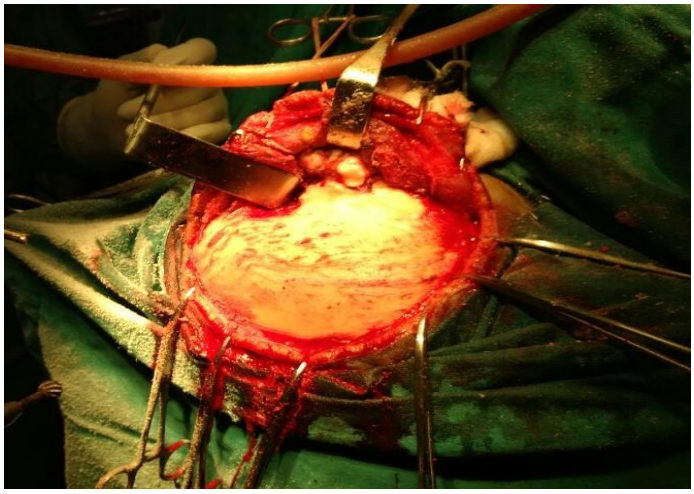

Figure 7: Exposure of the tumor

Figure 8: Suturing done using 3-0 Ethilon

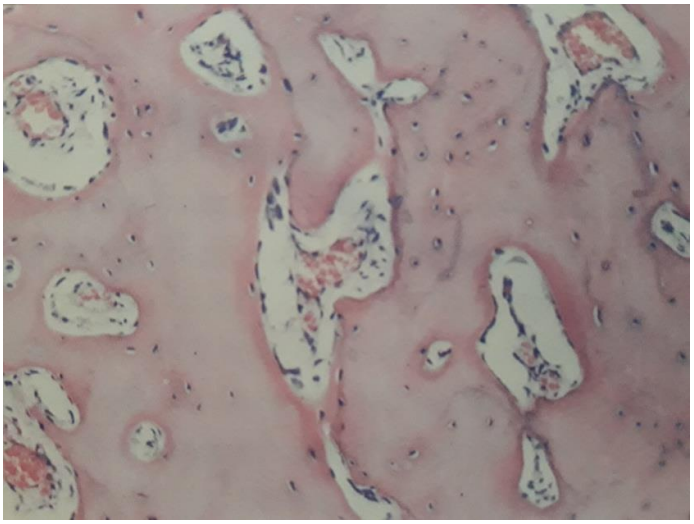

Figure 9: Histopathological Examination