MEDICATION RELATED OSTEONECROSIS OF THE JAW CO-EXISTENT WITH OTHER LESIONS.

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Background: Medication related osteonecrosis of the jaw (MRONJ) is a severe adverse drug reaction, consisting of progressive bone destruction in the maxillofacial region. Although its pathophysiology is not completely understood, 2 pharmacologic agents can cause MRONJ: antiresorptive agents, such as bisphosphonates (BP) and denosumab; and antiangiogenic agents. The diagnosis and staging of MRONJ is based on clinical and radiographic findings.

Discussion/Conclusions: We present 2 cases of MRONJ overlapped with 2 different lesions in the mandible. The first case is of a 63-year-old female patient undergoing intravenous bisphosphonate therapy for multiple myeloma. Cone beam computed tomography (CBCT) showed an ill-defined osteolytic lesion in the right ramus with diffuse sclerosis. The case was confirmed as multiple myeloma overlapping with MRONJ.

The second case is of a 74-year-old female patient with a history of MRONJ in the right retromolar area 9 years ago, and managed with surgery as well as extraction of teeth #31 in 2012, which resulted in complete healing. The patient presented last month with pain in tooth #30, for which endodontic treatment was planned. However, CBCT showed a periapical lesion around the tooth, with severe sclerosis and a sequestrum in the adjacent area of previous MRONJ lesion. Endodontic treatment was accomplished, and surgical debridement of the necrotic bone and adjacent area was planned. MRONJ can coexist with other lesions, including malignant neoplasms and periapical pathoses. Overlapping of these lesions with MRONJ might lead to misdiagnosis and inadequate management. Correlation of medical history, clinical findings, and careful radiographic interpretation can lead to the appropriate diagnosis and management of patients with these lesions.

Acknowledgments

Dr. Marcel Noujeim and Dr. Nikita Ruparel, UT Health San Antonio School of dentistry.

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NASOPALATINE DUCT CYSTS: A SPECTRUM OF IMAGING PRESENTATIONS.

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Background: Nasopalatine duct cysts are the most common nonodontogenic cysts of the oral cavity. These cysts are classified as being developmental in nature because they most likely develop after spontaneous cystic degeneration of the epithelial remnants of the nasopalatine duct. Imaging plays a vital role in the diagnosis and management of these cysts.

Discussion/Conclusions: We present 5 cases consisting of 3 males and 2 females seen in the Oral and Maxillofacial Radiology clinic at University of Toronto Faculty of Dentistry (Toronto, Canada). The ages of the patients ranged from 40 to 65 years. These cases all exhibited unusual imaging features that posed difficulties in interpretation. One potential difficulty in the radiologic interpretation of these entities was that these cysts exhibited a range of growth patterns that were unconventional; for example, some were asymmetric, and their epicenters were not located in the midlines of the anterior maxillae. Furthermore, some entities demonstrated benign-appearing expansile characteristics, whereas others had more aggressive features. Because of their positions and their proximities to the maxillary anterior teeth, the lesions appeared to resorb or displace teeth. Therefore, the possibility that these entities could be interpreted as rarefying osteitis (e.g., radicular cysts) or odontogenic keratocysts could not be ruled out on the basis of plain film imaging alone. Although there is value in planar film imaging as the preliminary imaging modality, atypical features, such as asymmetric location and loss of normal anatomic structures, made routine interpretation difficult. As a result, we undertook advanced imaging of these patients which enabled us to identify additional key features that enabled us to make a more definitive interpretation. This presentation aims to demonstrate the range of atypical presentations of the nasopalatine duct cysts. A clear understanding of this range of imaging features will improve the interpretive skill of oral and maxillofacial radiologists.

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OSTEOBLASTOMA: A CASE REPORT.

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Background: Osteoblastoma is an uncommon benign tumor of osteoblasts containing areas of osteoid and immature bone. This tumor occurs most often in the spine of a young person, with a male-to-female ratio of 2:1, and the average age at discovery is 17 years. There may be a report of swelling or pain. Osteoblastomas are rare in the jaws, and when they do occur there, are found both in the tooth-bearing regions, more in the posterior mandible, and commonly around the temporomandibular joint (within the condyle or the temporal bone). Aggressive osteoblastoma may represent low-grade osteosarcoma.

Objective(s): The aim of this study was to demonstrate a rare but potentially destructive lesion.

Discussion/Conclusions: A 14-year-old male was referred to the oral surgery clinic after the discovery of a swelling in the left side posterior mandible during a routine examination. The area was asymptomatic and a pantomograph revealed a radiopaque mass in the left posterior mandible. A series of radiographs demonstrated the growth of an enlarging radiopaque entity in the left side of the posterior mandible. An incisional biopsy was performed and the specimen submitted for decalcification and histopathologic examination.

Enucleation and curettage of the left mandibular lesion with peripheral ostectomy was carried out, and a surgical plate that

extended from the midramus to ipsilateral canine along the inferior border of the mandible was placed.

Acknowledgments

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OSTEOPATHIA STRIATA WITH CRANIAL SCLEROSIS.

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Background: Osteopathia striata with cranial sclerosis (OSCS) is a rare x-linked genetic disorder that has variable clinical findings but specific radiographic features, which include marked sclerosis of the long bones and axial skeleton, including the skull. Linear striations, commonly seen in the long bones, are the basis for the name *osteopathia striata*. Maxillofacial manifestations can include a cleft palate, high palatal vault, midface hyperplasia, hypoplastic maxillary sinuses, enlarged alveolar bone processes, temporomandibular joint (TMJ) abnormalities, and dense mandibular bone with variable striations. Dental abnormalities have been poorly documented but include delayed eruption of permanent teeth, missing teeth, short roots, and microdontia.

Study Design: A 44-year-old male was referred to the University of Florida College of Dentistry for evaluation and treatment of temporomandibular disorder (TMD). A pantomograph was exposed to assess TMJ dysfunction related to progressive bony overgrowth of craniomaxillofacial skeleton and ankylosis, which had previously been surgically treated. His medical history was significant for OSCS, cleft lip and palate, obstructive sleep apnea, bronchitis, asthma, disk herniation, arthritis, diabetes, and chronic kidney disease. The radiographic assessment was limited because of severe sclerosis of the cranium, displayed as multiple lobulated appearances and homogeneous radiopaque entities superimposed on the maxilla, TMJs, and the sphenoid, mastoid, and temporal bones. The visualized cortical outlines of the maxilla and the mandible appeared dense, thick, and sclerotic.

Discussion/Conclusions: OSCS is a rare disorder. Diagnosis can often be challenging because other diseases, such as osteopetrosis, pyknodysostosis, Paget disease of bone, and other sclerosing bone dysplasias, make this difficult to diagnose. Radiologists should be aware of the specific radiographic appearance of this condition to aid in the proper diagnosis and management of these patients.

Acknowledgments

The University of Florida Department of Oral and Maxillofacial Surgery

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OSTEOSARCOMA IN PAGET DISEASE OF BONE.

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Background: Paget disease of bone (PDB) is a disorder of bone metabolism that involves osteoclasts. Osteosarcoma arising in Paget disease is a rare complication of PDB occurring in less than 1% of all osteosarcomas. The aim of this case report is to describe different imaging features of osteosarcomas arising in PDB and its progression.

Clinical and Radiographic Findings: A 72-year-old female with known arthritis and PDB presented to the emergency room with a 1-week headache and right temporal/parietal skull swelling. The erythrocyte sedimentation rate (ESR) and serum alkaline phosphatase (ALK) were elevated. Planar radiographs of the skull exhibited mixed sclerotic and radiolucent lesions throughout, giving a cottonwool appearance. Multidetector computed tomography (MDCT) of the head showed peripheral enhancement, a partially calcified right temporal region mass, and expansion of the underlying calvarium with a periosteal reaction. Intracranial extension was clear on magnetic resonance imaging (MRI). Furthermore, positron emission tomography/computed tomography (PET/CT) revealed increased fluorodeoxyglucose (FDG) avidity in the solitary right temporal/parietal lesion. Biopsy revealed osteosarcoma with chondroblastic features arising in PDB. The patient underwent right craniectomy and resection of the tumor. Six weeks later, gross recurrent disease at the resection site was found on a head MDCT that demonstrated soft tissue density underlying the cranioplasty with a significant amount of vasogenic edema involving the temporal/frontal lobe. The patient underwent right decompressive and epidural tumor resection. A day later, she was pronounced brain dead.

Discussion/Conclusions: PDB is often diagnosed through incidental findings in a regular blood chemistry panel, particularly ALK, or through imaging done for another reason. The planar radiograph gives the best clue to the presence of PDB. The MDCT is mandatory for better outcomes in treatment of osteosarcoma, whereas MRI is best for depicting local intracranial extension. PET identifies the region of a tumor through FDG increase. Lastly, biopsy is necessary for confirming the tumor.

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