Case 2219

Osteolytic process of the mandible: aneurismal bone cyst
Published on 05.05.2008

DOI: 10.1594/EURORAD/CASE.2219
ISSN: 1563-4086
Section: Musculoskeletal system
Imaging Technique: CT
Imaging Technique: MR
Case Type: Clinical Cases
Authors: Bensmaili M, Le Van An JC, Safa D, Rakhtawane E
Patient: 7 years, female

Clinical History:

A 7-year-old girl presented with history of increasing and decreasing swelling mass of the right mandible over 18 months.

Imaging Findings:

A 7-year-old girl presented with history of increasing and decreasing swelling mass of the right mandible over 18 months. Physical examination showed an expansible mass of the right mandible. A panoramic radiograph showed an osteolytic radiolucency lesion of the right mandibular ramus. CT scan demonstrated lytic radiolucency, aggressive expansible balloon lesion with cortical destruction, subperiostal reaction and presence of internal trabeculation. MRI showed an expansible inhomogenous fluid-filled lesion with high intensity on T2-weighted images and low-intensity on T-1 weighted images with cortical bowing and septation. A surgical biopsy was performed and confirmed the diagnosis of aneurysmal bone cyst. The follow-up showed stability of the lesion and condensation of the border of the lesion 3 month after the initial CT scan.

Discussion:

Mandibular lesions in the pediatric population are unusual. Aneurysmal bone cyst (ABC) of jaws are found more frequently in the mandible than the maxilla but also involved other bone of the face such as the zygoma. ABC generally affects young persons. Radiographs show a unicyst, unilocular, soap bubble, honeycomb, multilocular or moth-eaten radiolucency causing expansion, perforation or destruction of the bony cortices. CT scan showed an expansile balloon lesion with internal trabeculations with cortical and cortical perforation in some areas. MRI showed an expansile and inhomogenous cystic lesion with cortical bowing, septation and fluid-fluid levels.

The differential diagnosis of radiolucency of mandible include neoplastic and developmental process (odontogenic keratocyst, ameloblastoma, ameloblastic fibroma, ameloblastic fibro odobntoma, myxoma, vascular malformation, central giant cell granuloma) but the main differential diagnosis of ABC is the teleanectatic osteosarcoma and histology is required.

Differential Diagnosis List: Aneurysmal bone cyst

Final Diagnosis: Aneurysmal bone cyst
References:

Motamedi MH, Yazdi E
Aneurysmal bone cyst of the jaws: analysis of 11 cases.

Motamedi MH, Stavropoulos MF
Large radiolucent lesion of the mandibular condyle.

Aneurysmal bone cysts of the jaws: CT and MR findings.
J Comput Assist Tomogr. 1992 Jan-Feb;16(1):84-6. (PMID: 1729313)

Jansen J, Terwey B, Rama B, Markakis E.
MRI diagnosis of aneurysmal bone cyst.

The radiological appearances of telangiectatic osteosarcoma. A study of 14 cases.
Skeletal Radiol. 1987;16(3):196-200. (PMID: 3473690)
Figure 1

Description: Unicystic radiolucency and extensive destruction of the right mandibular ramus

Origin:
Description: Axial CT scan. Lytic radiolucency, aggressive expansile ballooning lesion with cortical destruction and presence of internal trabeculation. Origin:
Description: Coronal MPR reformat: lesion of the right mandible ramus with cortical expansion and perforation. Origin:
Description: 3D CT reconstruction:
expanded, moth eaten right mandibular ramus caused by extensive and destructive lesion. Origin:
Description: Axial FSE T2-weighted MR image with fat saturation shows high signal intensity of the expansile ballooning lesion with hypointense septations in between them. Origin:
Description: Axial SE T1-weighted MR image shows low intensity expansile ballooning lesion. Origin:
**Description:** Axial SE T1-weighted MR image shows low intensity expansile ballooning lesion with enhancement of septation in between them. **Origin:**
Description: The follow-up showed stability of the lesion and condensation of the border. Origin: