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Surgery Curr Res 2018, Volume 8
DOI: 10.4172/2161-1076-C3-042

12th International Conference on
SURGERY AND ANESTHESIA
August 17-18, 2018 Singapore

Unusually large brown tumor of mandible in a case of tertiary hyperparathyroidism mimicking cherubism: A case report

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It is a case study of unusually large brown tumor of mandible mimicking cherubism in a patient with chronic kidney disease with tertiary hyperparathyroidism. A 41 year male of short stature and short neck presented in head and neck oncosurgery department with a grossly enlarged and protruding lower jaw, open mouth with chronic kidney disease on dialysis. Patient was immobile and limited to wheelchair. The biochemical investigations showed serum calcium 10.2 mg/dL. Serum PTH was 4808.0 pg/mL and 25-OH vitamin D 16.3 g/mL. The sestamibi scan showed left inferior parathyroid adenoma (below the lower pole of left thyroid gland). The ultrasound in addition to sestamibi showed the four enlarged parathyroid as hypoechoic nodules in their normal location behind the thyroid with characteristic arc of vascularity. The chest X-ray showed gross cardiomegaly, bilateral clavicles, scapula, humerus and multiple ribs showed mixed lytic and sclerotic areas. Calcification of the trachea and bilateral bronchi was seen. The echocardiography showed global left ventricular hypokinesia with paradoxical septal motion, thickened and calcific mitral valve leaflet with moderate MR (Mitral Regurgitation). The radionuclide bone scan (20 mCiof Tc-99 m MDP) showed focal abnormal uptake in the grossly enlarged mandible and maxilla. Increased uptake also noted in calvarium. The CT facial bones showed generalized increased bone density with multiple lytic and sclerotic lesions in all bones of skull. Gross expansion and marked thinning of cortex of bilateral maxilla, causing narrowing of the nasopharynx and nasal cavities. The expanded mandible is displacing the tongue posteriorly and causing narrowing of oropharynx and hypopharynx. Significant destruction of the alveolar arches in maxilla and mandible was seen giving a floating appearance to the teeth. With the enlarged mandible and floating teeth appearance cherubism was initially considered as a differential diagnosis. Cherubism is a rare genetic childhood disorder which causes enlargement of the lower part of face due to abnormal growth of the mandible and maxilla, where the bone enlarges and is replaced by cysts. It is considered as a variant of fibrous dysplasia. With further imaging the generalized metabolic abnormality of bones is suggested. In view of markedly raised parathormone levels, brown tumors in maxilla and mandible are likely diagnosis. Histopathology showed fibro-collagenous tissue admixed with irregular spicules of woven trabecular bone. Multiple multinucleated osteoplastic type giant cells are seen. Foci of calcification are seen. Findings were consistent with brown tumor syndrome.

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