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Submandibular lymph node calcification – A Diagnostic dilemma

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ABSTRACT

Nodal calcifications in the neck region are uncommon, only occurring in about 1% of enlarged nodes. Cervical lymph node calcification is usually asymptomatic and may be found on a routine panoramic survey. Clinical studies have shown that lymph node calcifications mostly associated with underlying benign inflammatory or infectious diseases or less frequently with malignant diseases. In the head and neck region, the most commonly involved nodes are the submandibular and cervical nodes; when calcified these nodes are generally asymptomatic. Clinician must be aware of such lesions and should be able to diagnosed and differentiate from other radiopacities occurring in this region. Here we report a case of a solitary right submandibular lymph node calcification in 55year old male patient which was an incidental finding on panoramic radiograph.

Keywords: lymph node calcification, submandibular, panoramic radiography, differential diagnosis.

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INTRODUCTION

The deposition of calcium salts, primarily calcium phosphate, usually occurs in the skeleton. When it occurs in an unorganized fashion in the soft tissue, it is referred to as heterotrophic calcification. Cervical lymph node calcification is a type of dystrophic variety of calcification.[1] The lymphoid tissue becomes replaced by hydroxyapatite-like calcium salts, nearly effacing all of the nodal architecture. These relatively asymptomatic masses must be diagnosed and differentiated from other radiopacities occurring in head and neck region.[2] Because of fewer cases of maxillofacial calcified lymph nodes, an accurate clinical diagnosis is difficult. Here we describe a case of calcified lymph node in 55 year old male patient discovered incidentally on a routine orthopantomograph.

Case Report

A 55-year-old male presented for prosthetic treatment with the chief complaint of missing teeth. His past medical and dental history were not significant. On extracting history patient revealed he has suffered from repeated right maxillary sinusitis. Patient was free of any sign and symptoms other than right maxillary sinusitis. Extra oral examination showed no facial asymmetry. Intraoral examination showed slight soft tissue bulge on right lingual aspect of mandible (Figure 1). On the panoramic radiograph taken for prosthetic purposes, a solitary radiopaque mass was detected below the right angle of the mandible (Figure 2). The radiopaque mass was oval in shape, homogeneous radiopacity with smooth and well defined borders. The maxillary sinus on right side was slightly enlarged compared to left side. Out of patient interest we further advised mandibular occlusal and anterior poster skull view (PA-view) radiographs. Mandibular occlusal view revealed a small part of radiopacity on lingual aspect right mandible (Figure 3). PA – view revealed round Radiopaque mass measuring 1.5 cm in the region right side of mandible (Figure 4). Depending on the history of chronic maxillary sinusitis and radiographical findings a provisional diagnosis of right submandibular cervical lymph node calcifications was made. As the patient was unaware of the condition and it was incidentally found on radiograph patient denied for further investigations and treatment.

Figure 1: Intra oral view on right side of mandible.

Figure 2:Orthopantamograph showing well defined round radiopacity mass at right side of mandible.

Figure 3: Mandibual occlusal view showing radiopaque mass on lingual aspect of right side of mandible.

Figure 4: Posterior-anterior view showing round radiopaque mass on right side of mandible.

DISCUSSION

Nodal calcifications in the neck region are uncommon, only occurring in about 1% of enlarged nodes.[3] Calcified lymph nodes are generally asymptomatic and they first discovered as incidental findings on panoramic radiographic examinations.[4] The most commonly involved nodes are the submandibular, superficial and deep cervical lymph nodes. They are seen less commonly in preauricular and submental areas.[5] Calcification is usually present in patients who have a history of chronic inflammation in the area (e.g. sinusitis, tonsillitis) however can be the result of tuberculosis, metastases of thyroid cancer or associated with a patients who have been treated for lymphoma.[6] in the present case patient has history of repeated right maxillary sinusitis.

Lymph node calcification may be single or multiple, unilateral or bilateral, lying in a roughly linear orientation, and the periphery may be well defined and usually irregular, sometimes having a lobulated appearance resembling a cauliflower. On palpation appear as bony, hard, round or linear masses with variable mobility.[7] Nodal calcification in the neck is a rare condition. They are mostly associated with benign conditions, such as tuberculosis, histoplasmosis, sinus histiocytosis, actinomycosis, hemangioma phleboliths, and systemic or localized amyloidosis.[7,8] Baskota et al.,[9] reported that in patients with tuberculous cervical lympadenitis, the majority of the nodes are unilateral; of these, only one group of lymph nodes is usually involved. It was also reported that calcification in tuberculous neck nodes is much less common than calcification in nodes elsewhere in the body. Tuberculosis calcifications mostly occur in the nodes of chest and abdomen.[10] Eisenkraft and Som[11] have reported that only 1% of the 2300 neck CT scans revealed cervical lymph node calcification.

Calcified lymph nodes were generally characterized by scars and swellings in neck area and the range of the incidence of cervical lymph node calcification in lymph node tuberculosis was reported as 6-7 % in other studies.[5] In our patient was asymptomatic and did not show any scar or swelling in the neck area. Infrequently, nodal calcification may be associated with malignant diseases. It was reported that the most common neoplastic cause of nodal calcification in the neck is thyroid tumors.[12] However, Gormly K and Glastonbury CM[13] reported a case of calcified submandibular nodal metastasis resulting from squamous cell carcinoma of the lip, and they stated that head -neck squamous cell carcinomas must be considered during differential diagnosis of such conditions. Radiographically these calcifications usually appear as a single round, oval, or linear calcified radiopaque mass with well defined borders. The most common location is the submandibular region, either at or below the inferior border of the mandible near the angle, or between the posterior border of the ramus and cervical spine or sometimes overlaps the inferior aspect of the ramus and are thus misdiagnosed as osseous lesions.[1] Other soft tissue calcifications in the neck region that mimic lymph node calcifications and are tonsilloliths, calcified blood vessels, osteoma cutis, sialolith, myositis ossificians, and dystrophic calcifications calcification, ghost images, foreign bodies, carotid atheromas, calcified stylohyoid ligament complex, tonsillithiasis and phlebolithiasis. They are usually asymptomatic and first discovered as an incidental finding on panoramic or lateral oblique radiographs in dentistry.[2,4,5] If the patient has history of tuberculosis infection then the differential diagnosis of lymph node calcification should includes histoplasmosis, tuberculosis, Bacille Calmette-Guérin (BCG) vaccination, coccidiomyosis, filariasis, and lymphoma, as well as metastases from a distant osteosarcoma and other calcifying neoplasms.[7] The differential diagnosis between Calcified lymph node and a sialolith in submandibular salivery gland is difficult since Calcified lymph node and a sialolith both would be projected into the same general region on the radiograph. A painfull swelling accompanying a calcified mass in the submandibular space strongly indicate a sialolith and it usually has a smooth outline. On the contrary if calcified lymph node is asymptomatic and has smooth, rounded contour.[1,14] A detailed patient history and clinical examination, supplemented with appropriate imaging modalities and diagnostic tests, is necessary to establish the final diagnosis.[4] Identification of soft tissue calcifications is difficult when relying on panoramic or lateral oblique radiographs alone. Although CT is an excellent imaging approach for revealing calcified lymph nodes, it does not allow for differentiation between benign and malignant lesions. Therefore, biopsy is obligatory in almost all cases for diagnostic purposes.[10] Calcified lymph node does not require any

treatment as it is symptom –free but symptomatic patients may require surgical removal of lymph node.[2,5]

CONCLUSION

Many times cervical node calcification is an incidental finding. Clinicians should be aware of such discrete, dystrophic calcifications associated with an underlying systemic disease. Cervical node calcification may be associated with benign or malignant conditions and should be considered in the differential diagnosis of such lesions.

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