
INTRODUCTION

Sarcoidosis is a systemic granulomatous disease of unknown etiology which usually presents with pulmonary manifestations. The lungs and thoracic lymph nodes are almost always involved, resulting in acute or insidious respiratory symptoms. Extrathoracic sites of involvement include the eyes, bone marrow, spleen, liver, kidneys, salivary glands, skin, and mucous membranes. The incidence of osseous sarcoidosis varies from 3-13%. Bony involvement in the head and neck is rare, and is usually a manifestation of disease chronicity. However, we report a case of sarcoidosis presenting as a lytic bony lesion of the mandible discovered on imaging in a patient without systemic or pulmonary complaints.

FIGURE 1. Axial MRI of face showing an infiltrative, hyperintense on T2, enhancing appearance of the mandible (arrow) surrounding the roots of teeth number 21-23.

FIGURE 2. CT neck with contrast, axial cut, showing a well-marginated 2x1 cm focal area of lucency (arrow) involving the lower alveolar ridge. There is focal expansion of the mandible in the same location with endosteal scalloping.

FIGURE 3. CT neck with contrast, coronal plane, showing the same lesion (arrow).

CASE PRESENTATION

43 y/o Caucasian male with h/o longstanding lichen planus & squamous cell carcinoma of the left tongue treated surgically presented to clinic with dysgeusia

- Sent for MRI of orbits, face (Fig 1), & neck revealing a new focal enhancing appearance of right mandible & numerous prominent lymph nodes in neck, mediastinum, & paratracheal region
- CT neck ordered (Fig. 2-3), which showed a well-marginated 2x1 cm lytic lesion of right mandible along nerve roots from the 23rd to 21st teeth with endosteal scalloping of the cortex
- Excisional biopsy of bony mandibular lesion performed
- Pathological evaluation (Fig. 4) revealed fibroosseous tissue with multiple non-caseating granulomas composed of epithelioid histiocytes; stain for acid fast bacilli & fungi both negative
- Osseous involvement by sarcoidosis considered → follow-up CXR obtained (Fig. 5), showing new bilateral hilar adenopathy & increased interstitial markings
- Patient referred to pulmonologist:
  - Spirometry: mild airflow limitation
  - Chest CT (Fig. 6): symmetric hilar & pretracheal lymphadenopathy with calcifications
  - CMP: normal
- Sarcoidosis diagnosed; treatment deferred given patient’s lack of pulmonary or extrapulmonary symptoms

FIGURE 4. Mandibular biopsy tissue, H&E. Non-caseating granulomas (arrowheads) distributed throughout fibroosseous tissue. Each granuloma is composed of compact, radially arranged epithelioid cells with pale nuclei.

DISCUSSION

Sarcoidosis is diagnosed when clinical findings are supported by histologic evidence of non-caseating epithelioid cell granulomas. Over a third of patients present with dyspnea, dry cough, and retrosternal chest pain. Many also report fatigue, anorexia, weight loss, and fever. Conversely, over 20% of patients are asymptomatic, with sarcoidosis discovered on routine radiography.

Bony involvement in sarcoidosis varies from 3-13% and appears to be a marker of chronicity. An estimated 80-90% of patients with osseous sarcoidosis exhibit radiographic evidence of pulmonary disease. While most any bone can be involved, the phalanges, metacarpals, and metatarsals are most frequently affected. Lytic lesions of the skull and face are commonly associated with overlying lupus pernio, which was not a feature of the present case.

The granulomata of osseous sarcoidosis typically reside in the bone marrow. Erosive changes within medullary bone result from growth of the noncaseating granulomas. The cortex of the bone thins and expands. Sarcoidosis affecting the mandible is a rare entity, with only 12 cases reported in the literature to date. Even more extraordinary is a mandibular bony lesion as a presenting feature of sarcoidosis, such as in the present case.

CONCLUSION

✓ Our case of a lytic mandibular lesion discovered incidentally on imaging is a rare presentation of sarcoidosis

✓ The patient’s normal chest imaging 2 years prior suggests a rapid onset of bony involvement, which is opposed to the common association of bony granulomatous sarcoidosis with disease chronicity

✓ While malignancy & infection are common causes of lytic bony lesions found on imaging, sarcoidosis is a rare cause which must be considered

✓ A broad differential, in addition to biopsy, is required in such a case

REFERENCES