CASE REPORT

Actinomycosis of submandibular gland: An unusual presentation of a rare entity

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INTRODUCTION

Although cervico-facial actinomycosis is well-described, primary actinomycosis of the salivary gland is rare. Actinomycosis was considered to be the commonest of all deep mycotic infections or mycetomas in the past. However, now it is well-established that it is a granulomatous lesion characterized by chronic suppuration usually caused by Actinomyces israelii which is a gram positive, non-acid fast, anaerobic, commensal bacteria within the oral cavity (tonsillar crypts and tartar of teeth). Unlike most of the mycotic infections, actinomycosis is not an opportunistic infection and the portal of entry is not through inhalation. It commonly affects the facial soft tissue although it can spread to adjacent, salivary gland, bone and skin of face and neck. Primary actinomycosis of the submandibular gland is very rare and can present as any other suppurative infection or can simulate malignancy. We hereby report a case of a young male with primary actinomycosis of submandibular gland, presenting as acute suppurative infection and diagnosed on histopathology.

CASE REPORT

A 22-year-old male presented to The Surgical Emergency with a 4.5 × 3 cm rapidly progressive, firm, tender swelling in the right submandibular region. There were no discharging sinuses on the overlying skin. There was no history of fever, malaise, cough, breathlessness, hemoptysis, trauma, surgery, recent tooth extraction or dental infection. He was neither diabetic nor immunocompromised. The swelling was confined to the submandibular region only. Routine investigations including blood counts, erythrocyte sedimentation rate and chest X-ray were within normal limits except for mild eosinophilia in the peripheral blood. ELISA test for HIV antibody was negative. Surgical excision was planned with the clinical suspicion of acute suppurative infection and abscess formation. Submandibular gland with surrounding soft tissue was excised and sent for histopathological examination.

On gross examination the gland measured 4 × 3 × 3 cms. No abscess cavity could be identified [Figure 1]. Microscopic examination revealed dense chronic inflammatory infiltrate in the periductal region and in the normal glandular parenchyma with extensive lymphoid follicle formation. Within the ducts, micro-organisms with filamentous appearance were appreciated, compatible morphologically with Actinomyces colonies. Focal areas also exhibited mixture of acute and chronic inflammatory cells. No granulomas or fungal profiles were present. A diagnosis of actinomycosis of the right submandibular gland was made [Figures 2 and 3].

DISCUSSION

Actinomycosis is a chronic, suppurative infection that can occur in the head and neck region. It is a potential microbial contaminant of head and neck surgery and may complicate a major surgical oncologic head and neck procedure. There is a male prevalence in young adults (3:1). The disease is characterized by an abscess formation surrounded by a granulomatous inflammatory reaction. The present case is also of a young male with a similar presentation.

Actinomyces is a commensal and normal inhabitant of the human oral cavity and gastro-enteric tract. Cervico-facial actinomycosis is the most common manifestation,
Actinomycosis of submandibular gland is rare. The unusual presentation like the present case may make diagnosis difficult. In the absence of microbiological cultures histopathology is essential in diagnosis.

CONCLUSION

Actinomycosis of submandibular gland is rare. The unusual presentation like the present case may make diagnosis difficult. In the absence of microbiological cultures histopathology is essential in diagnosis.
REFERENCES

1. Vera-Alvarez J, Marigil-Gomez M, Abscal-Agorreta M. Fine needle aspiration cytology of cervicofacial actinomycosis. Acta Cytol 1993;37:109-11.
2. Schaal KP, Lee HJ. Actinomycete infections in humans: A review. Gene 1992;115:201-11.
3. Das DK, Gulati A, Bhatt NC, Mandal AK, Khan VA, Bambhani S. Fine needle aspiration cytology of oral and pharyngeal lesions. A study of 45 cases. Acta Cytol 1993;37:333-42.
4. Weese WC, Smith IM. A study of 57 cases of actinomycosis over a 36-year period. Arch Intern Med 1975;135:1562-8.
5. Sa’do B, Yoshiura K, Yuasa K, Ariji Y, Kanda S, Oka M, et al. Multimodality imaging of cervicofacial actinomycosis. Oral Surg Oral Med Oral Pathol 1993;76:772-82.
6. Moniruddin AB, Begum H, Nahar K. Actinomycosis-An update. Med Today 2010;22:43-7.
7. Bennhoff DF. Actinomycosis: Diagnostic and therapeutic considerations and a review of 32 cases. Laryngoscope 1984;94:1198-217.
8. Kwartker JA, Limaye A. Cervicofacial actinomycosis: pathologic quiz case. Arch Otolaryngol Head Neck Surg 1989;115:524-4.
9. Smego RA, Foglia G. Actinomycosis. State of the art clinical article. Clin Infect Dis 1998;26:1255-61.
10. Stenhouse D, MacDonald DG, MacFarlane TW. Cervico-facial and intra-oral actinomycosis: A 5-year retrospective study. Br J Oral Surg 1975;13:172-82.
11. Gaffney RJ, Walsh MA. Cervicofacial actinomycosis: An unusual cause of submandibular swelling. J Laryngol Otol 1993;107:1169-70.
12. Chiang CW, Chang YL, Lou PJ. Actinomycosis imitating nasopharyngeal carcinoma. Ann Otol Rhinol Laryngol 2000;109:605-7.
13. Belmont MJ, Behar PM, Wax MK. Atypical presentations of actinomycosis. Head Neck 1999;21:264-8.
14. Stewart AE, Palma JR, Amsberry JK. Cervicofacial actinomycosis. Otolaryngol Head Neck Surg 2005;132:957-9.