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CHRONIC TONSILLITIS ASSOCIATION WITH ACTINOMYCOTIC INFECTION: A CASE REPORT.

Pathology

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ABSTRACT

Actinomyces are gram positive, anaerobic, slow growing, non-acid-fast bacteria known to occur within oral cavity, colon and vagina. Actinomycotic infection is usually diagnosed by culture, macroscopic sulphur granules and histopathology. Definitive histopathological findings includes an outer granulation tissue zone and central necrosis containing sulphur granules which represent actinomyces. Our case was a 8-year male patient who came to otorhinolaryngology OPD with chief complaints of sore throat, difficulty in swallowing and swelling neck since 1 week. Clinical diagnosis of chronic tonsillitis was made. Tonsillectomy was performed and specimen sent for histopathological examination and a final diagnosis of chronic tonsillitis with actinomycosis was made.

KEYWORDS

Actinomyces, tonsillitis, PAS positive

INTRODUCTION

Actinomyces are gram positive, anaerobic, slow growing, nonacid-fast bacteria known to occur within oral cavity, colon and vagina. The common oral cavity sites include dental plaques, tonsillar crypts and gingival surface.[1] It acts as living commensal and only predisposing factors including dental caries, dental manipulation and maxilla-facial trauma through which this organism gains access to underlying mucosal surface.[2]

The incidence of actinomycotic infection in tonsillectomy specimens ranges from 6.7% to 35% as reported in previous literature. Actinomyces is usually seen in healthly individuals and not considered as an opportunistic infection.

Actinomycotic infection is usually diagnosed by culture, macroscopic sulphur granules and histopathology. Definitive histopathological findings includes an outer granulation tissue zone and central necrosis containing sulphur granules which represents actinomyces .[3]

Our case presents with clinical features of tonsillar hypertrophy and chronic tonsillitis. The importance of identifying this organism lies in the fact that long course of penicillin group antibiotics is required to treat the disease and a delayed diagnosis without clinical suspicion leads to prolonged course of illness and delayed treatment. However, an accurate histopathological diagnosis and proper timely treatment can be rendered.

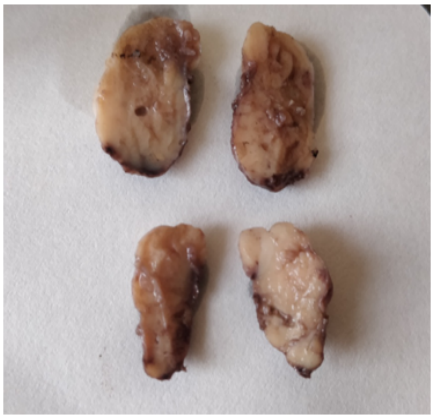

Figure1- Gross picture showing cut section of both globular encapsulated tissue pieces.

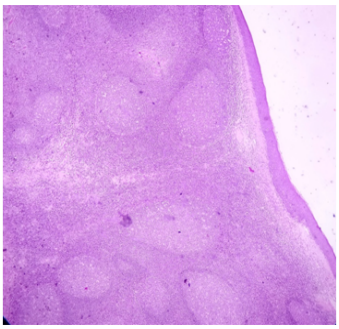

Figure 2 Photomicrograph showing stratified squamous epithelium with underlying subepithelium showing varying sized lymphoid follicles with germinal centre formation.(H&E 20x)

Figure 3 Photo Micrograph Showing Act Inomycotic Colonies With Areas Of Central Necrosis Staining Positive With Periodic Acid Schiff (PAS) Stain.

Case Report

A 8-year male patient came to otorhinolaryngology OPD with chief complaints of sore throat, difficulty in swallowing and swelling neck since 1 week. The patient was febrile and also had a past history of recurrent acute tonsillitis since one year for which he had taken antibiotics and analgesics. Oral examination revealed dental caries of left lower molar tooth. Physical examination revealed bilateral swelling over submandibular region. Tonsillectomy was performed and specimen sent for histopathological examination.

We received two encapsulated globular grey white tissue pieces. One measuring 3x2.5x1cm and other measuring 3x1.5x1cm. Cut section of both revealed homogenous grey white areas. (Figure 1)

Microscopic examination showed stratified squamous epithelium with underlying tissue composed of varying sized lymphoid follicles with germinal centre formation. (Figure2) Few areas within crypts showed actinomycotic colonies with areas of central necrosis which stained positive with periodic acid schiff (PAS) stain, confirming the diagnosis of actinomycosis.(Figure3) Unremarkable skeletal muscle, minor salivary glands and fibrocollagenous tissue were also present. No cellular atypia seen. Based on these findings a final diagnosis of chronic tonsillitis with actinomycosis was made.

DISCUSSION

Actinomyces is a gram positive, anaerobic bacterium which grows as a hyphae or filamentous organism. Actinomycotic infection of cervicofacial region(50%) is commonest, followed by pulmonothoracic(30%) and abdominopelvic(20%). The common locations in the oral cavity are dental plaques, tonsillar crypts and gingival surface. Most commonly observed in children over 5 years of age. Our 8- year old patient has history of dental caries which is favouring literature as a predisposing factor. [3]

The infection spreads through mucosal lesion to underlying soft tissues and bones replacing it with granulation tissue and rarely extends to surface forming sinus tracts.[4]

Diagnosis of actinomycosis may be possible by positive culture, but growth of this organism is difficult even on proper anaerobic media. The typical findings on histopathological examination reveals sulphur granules which are seen as basophilic masses with a granular center and radiating finger like projections.

Despite the fact that actinomyces has been identified in tonsillectomy specimens, its role in adenotonsillar disease is still debatable. Previous literature found that actinomyces colonization to be higher in patients undergoing tonsillectomies for sleep breathing disorders. Pransky et al. found actinomyces colonisation higher in patients with tonsillar adenoidal hypertrophy. Only few authors have reported role of this organism in chronic tonsillitis and tonsillar hypertrophy.[5]

Indications for tonsillectomy are recurrent acute tonsillitis or tonsillar hypertrophy which causes obstructive symptoms. Treatment of choice includes surgery excision and tonsillectomy is curative for tonsillar actinomycosis. Now a days, post surgery, medical therapy with IV penicillin for 4 weeks and thereafter 3-6 months of oral penicillin is recommended.[6]

No specific measures are there for prevention of actinomycotic infections, however good oral and dental hygiene may reduce the incidence of colonization.

CONCLUSION

Actinomycosis of tonsils is an important entity as it can mimic other common lesions of oropharynx or rarely malignancy. Lesions that do not respond to common antibiotics, may arouse the suspicion of actinomycosis. Tonsillectomy is recommended treatment and histopathology plays an important role in diagnosis.

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