Original Article

Case Of Actinomycosis In Recurrent Tonsillar Hypertrophy

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Abstract

Actinomycosis is a chronic suppurative infection that is seen anywhere in the body. We report a case of tonsillar hypertrophy for a duration of 1 year in an elderly female patient for whom biopsy and postoperative HPE are sent & results show characteristic sulfur granules and radial spoke-like appearance suggestive of actinomycosis.

INTRODUCTION:

Actinomyces are slow-growing, gram-positive, nonacid fast, anaerobic, commensal bacteria within the oral cavity, colon, and vagina[1]. Actinomyces Israeli and actinomyces naeslundi are more common pathogenic actinomycetes[2]. These organisms are more commonly found in gingival crypts, dental calculi, and tonsillar crypts. Cervicofacial actinomycetes may be susceptible to and characterized by tissue necrosis and mucosal breaks that are associated with the tooth extraction process and cavities. Mechanism of action-actinomycetes are anaerobes that release proteolytic enzymes that diminish oxidation-reduction potential and lead to the proliferation of organisms that invade the surrounding tissues. The actinomycotic organisms typically found in the tonsillar crypts also may colonize the tonsils.

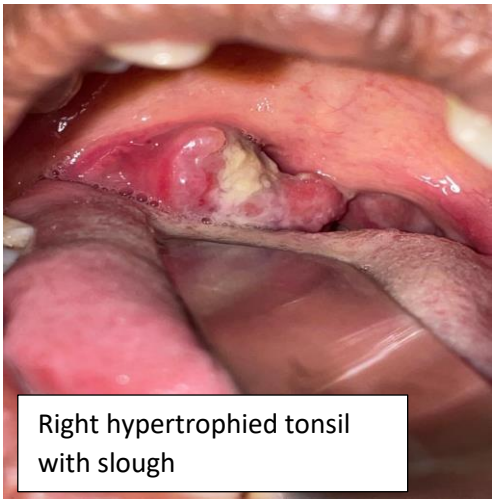
CASE REPORT:

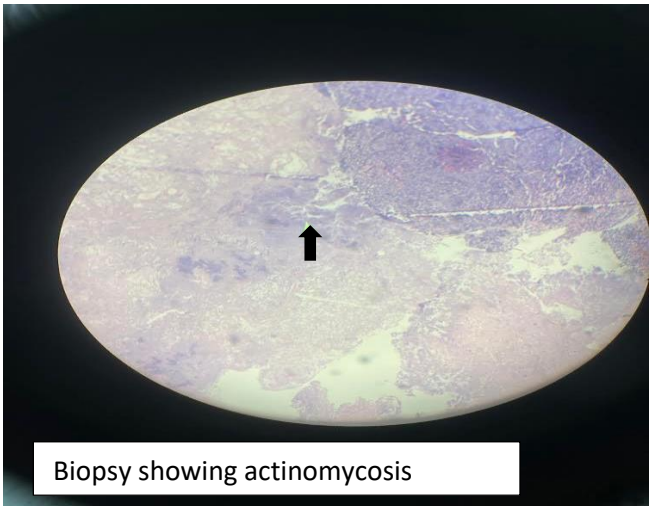
A female patient of age 52years from arakkonam, Tamilnadu came to ENT OPD with chief complaints of difficulty while swallowing and pain during swallowing on and off for the past 1 year and was treated with oral antibiotics. History of bad breath, & recurrent sore throat present. The patient had complained of swelling at the right side of the neck for the past 3 months which is insidious in onset and gradually progressing. The patient is treated with IV antibiotics for 10 days. The patient had no history of comorbidities like diabetes mellitus, hypertension, bronchial asthma, or thyroid disorders. Routine blood investigations were normal.

On general examination, the patient is moderately built and nourished. Systemic examinations like the cardiovascular system, central nervous system, respiratory system, and abdomen are normal.

On throat examination, the oral cavity is normal and the oropharynx shows the bilateral anterior pillar of the tonsil looks congested. Grade 4 tonsillar hypertrophy of right tonsil touching uvula with slough & grade 3 tonsillar hypertrophy of left tonsil. The bilateral posterior pillar of the tonsil is not seen. The posterior pharyngeal wall looks congested. Ear and nose examination findings are normal.

Neck examination shows 4×4cm swelling is observed at level 3 of neck nodes which is firm, non-tender, not warm, and skin over swelling appears normal and pinchable.





BIOPSY is taken from the right tonsil and shows chronic tonsillitis with actinomycosis with sulfur granules. **FNAC of the right cervical node** is taken and sent for histopathological examination which shows 1) no evidence of malignancy seen and 2) reactive lymphadenitis.

The patient subsequently underwent bilateral tonsillectomy and was sent for histopathological examination which shows multiple foci of actinomycosis. Postoperatively patient is treated with iv antibiotics with Inj. Penicillin twice daily and iv analgesics with Inj. Paracetamol twice daily for 1 week. The patient had no complaints at postoperative 2 and 3-week follow-ups.

DISCUSSION:

The presence of actinomyces recorded in tonsils has varied greatly in studies carried out over the years. In a study, the occurrence rate ranges from 6.7% to 56.8%[4,7-9]. Staphylococcus aureus and beta-hemolytic streptococcus act in a synergistic fashion to create an anaerobic environment for the actinomycetes to multiply. Hematoxylin-and-eosin (H&E) shows sulfur granules which are highly suggestive of actinomyces colonies[3]. The presence of actinomycosis can be recognized as aggregates of filamentous basophilic microorganisms arranged in a radial spoke-like fashion[6]; the so-called "ray-fungus" appearance of an actinomyces colony. The higher prevalence of sickle cell anemia, beta-thalassemia, and streptococcus hemolytic can be explained by the fact that these conditions diminish the oxidation-reduction potential, leading to a proliferation of actinomycosis in the core tissue of the tonsils. This possibly results in lymphoid hyperplasia resulting in tonsillar hypertrophy. An empirical trial of penicillin orally 100 mg/kg per day divided four times daily for 12 weeks as medical management of tonsillar actinomycosis has been suggested[5]. Tonsillectomy is curative in tonsillar actinomycosis.

CONCLUSION: Bacterial infections like Hemolytic streptococcus, staphylococci, pneumococci, or H. influenza are the most common causative organism for tonsillitis. Over the years, studies showed various results in the occurrence rate of the presence of actinomycosis.

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