ACTINOMYCOSIS LARYNX: A RARE ENTITY

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INTRODUCTION

Actinomycosis can be defined as "an indolent, slowly progressive infection caused by anaerobic or microaerophilic bacteria, primarily from the genus Actinomyces, which normally colonize the mouth, colon and vagina" [1]. Disruption of mucosa can lead to involvement of virtually any part of the body most commonly cervico facial area [2]. Laryngeal involvement has rarely been reported and is usually secondary to mandibular disease [3].

CASE REPORT

Our patient, a fifty five year old poultry farmer presented with two years history of throat discomfort, for which he had taken steam inhalation. For the last two months he noticed a change in his voice and presented in Combined Military Hospital Rawalpindi on second Feb 2007. On examination he was found to be hoarse. His Indirect Laryngoscopy (IDL) showed oedematous cords. Rest of his examination did not reveal any abnormality. After preoperative work up including Blood CP and X-ray Chest, patient was planned for Direct Laryngoscopy (DL). He underwent DL on 8-2-07, which revealed oedematous cords with yellowish spots. Left vocal cord appeared more swollen so stripping of left vocal cord was carried out and the material sent for histopathological examination and culture studies. A differential diagnosis of Reinke's odema and Actinomycosis larynx was made.

Histopathology report received showed actinomycosis larynx. Culture report was negative. Final diagnosis of Actinomycosis larynx was made because of presence of Sulphur granules (yellow spots) on naked eye examination of vocal cords during DL, and a positive hitopathology report. The patient was started on Injection Benzyl Penicillin one million unit international units intravenous four times a day. This dose was continued for four weeks after which patient were shifted on tablet ciprofloxacin 500 mg twice daily due to unavailability of oral penicillin V. The oral therapy was continued for 3-6 months depending upon the response. During the treatment the hoarseness settled and IDL showed reduction in odema of the vocal cords.

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DISCUSSION

Von Langenbeck in 1845 reported the first case of human infection with actinomycosis and he attributed it to a fungus [4]. In the 1960's Waksman proved that actinomyces were gram-positive bacteria [5]. There are five species of Actinomyces identified as: Actinomyces israelli, Actinomyces meyeri, Actinomyces naeslundii, Actinomyces viscosus and Actinomyces odontolyticus. They are members of the family Actinomycetaceae, Stretomycetaceae and Actinoplanaceae. These are gram-positive rods, and strict, or faculative anaerobes. Morphologically they are filamentous and branching in structure [6].

Actinomyces infection was divided into three distinct forms by Cope in 1938. Cervicofacial form which occurred in 50% of the cases, Pulmonothoracic form that occurred in 30 % and the abdominopelvic form that was responsible for 20 % of the cases. Due to good antimicrobial agents the last two forms are rarely seen [7].

The classic sulfur granules when present can help make the diagnosis but are only seen in approximately 40% of cases. However, sulfur granules may also be seen in Nocardia

infections and this distinction can be made by the presence of acid fast staining seen in Nocardia. To establish the diagnosis of Actinomycosis, two of the following conditions must be present: sulfur granules, positive cultures, or biopsy specimens showing the organism [8].

Laryngeal involvement, presenting as hoarseness with the finding of an exophytic lesion of the larynx, is a rare but important presentation because of its possible misdiagnosis as a laryngeal malignancy. Actinomyces can involve the tonsil [9], parotid gland [10], hard palate, tongue, lacrimal duct and orbit [11].

The current recommended therapy include 4 weeks of high dose IV Penicillin (0.5 Mega Units to 4 Mega Units daily) followed by a 3 to 6 month course of oral Penicillin [12,13]. It is important to continue the treatment even after total resolution of symptoms. Literature has shown tetracycline, erythromycin, ciprofloxacin, and clindamycin to be effective against the disease. These agents can be used in Penicillin-allergic patients [14,15].

REFERENCES

1. Thomas AR. Agents of Actinomycosis. In: Mandell GL, Bennett JE, Dolin R, editors. *Mandell, Douglas, Bennetts Principle and Practice of infectious diseases*. 6th ed. Philadelphia: Churchil Livingstone; 2005. p. 2924.
2. Bartels LJ, Vrabec DP. Cervicofacial actinomycosis. *Arch Otolaryngol* 1978; 104: 705-8.
3. Chang CJ, Lalwani AK, Lanser MJ. Actinomycosis of the external auditory canal. *Otolaryngol Head Neck Surg* 1993; 108: 73-5.
4. Bennhoff DF. Actinomycosis: diagnostic and therapeutic considerations and a review of 32 cases. *Laryngoscope* 1984; 94: 1198-217.
5. Drake DP, Holt RJ. Childhood actinomycosis: report of three cases. *Arch Dis Child* 1976; 51: 979-81.
6. Fradis M, Zisman D, Podoshin L, Wellisch G. Actinomycosis of the face and neck. *Arch Otolaryngol* 1976; 102: 87-9.
7. Harvey JC, Cantrell JR, Fisher AM. Actinomycosis: its recognition and treatment. *Ann Intern Med* 1957; 46: 868-85.
8. Hong IS, Mezghebe HM, Gaiter TE, Lofton J. Actinomycosis of the neck: diagnosis by fine needle aspiration biopsy. *J Natl Med Assoc* 1993; 85: 145-6.
9. Bhargava D, Bhusnurmath B, Sundaram KR, Raman R, Al Okbi HM, Al Abri R, et al. Tonsillar actinomycosis: a clinicopathological study. *Acta Trop* 2001; 80(2): 163-8.
10. Orvidas LT, Kasperbauer JL, Lewis JE, Olsen KD, Lesnick TG. *Arch Otolaryngol Head Neck Surg* 2000; 126: 177-84.
11. Nelson EG, Tybor AG. Actinomycosis of the larynx. *Ear Nose Throat J* 1992; 71:356-8.
12. Macfarlane DJ, Tucker LG, Kemp RJ. Treatment of recalcitrant actinomycosis with ciprofloxacin. *J Infect* 1993; 27: 177-80.
13. Norman JE. Cervicofacial actinomycosis. *Oral Surg Oral Med Oral Pathol* 1970; 29: 735-44.
14. Stenhouse D, MacDonald DG, MacFarlane TW. Cervico-facial and intraoral actinomycosis: a 5-year retrospective study. *Br J Oral Surg* 1975; 13: 172-82.
15. Stewart MG, Sulek M. Pediatric actinomycosis of the head and neck. *Ear Nose Throat J* 1993; 72: 614-9.