

Botryomycosis Due to *Staphylococcus Aureus* – A Case Report

Monika Srivastava^{1*}, Vishvesh P. Bansal², Harish S. Ghogare², J. K. Mishra³

¹Senior Resident, ²Associate Professor, ³Assistant Lecturer

Department of Microbiology, MGM Medical College, Aurangabad, Maharashtra, INDIA.

*Corresponding Address:

docmonika85@gmail.com

Case Report

Abstract: Botryomycosis is a rare granulomatous disease. We report a patient with multiple discharging sinuses and oedema on the back following trauma. Microbiological examination revealed *Staphylococcus aureus* as the causative agent. The patient responded to antibiotic co-trimoxazole.

Keywords: Botryomycosis, *Staphylococcus aureus*.

Introduction

Botryomycosis (or bacterial pseudomycosis) is a rare chronic bacterial granulomatous disease that usually involves skin, subcutaneous tissue and rarely the viscera.¹

² *Staphylococcus aureus* (40%) is the main aetiological agent followed by *Pseudomonas aeruginosa*, however, other causative agents reported are *E. coli*, *proteus*, *bacteroides*, *streptococcus spp*, *micrococcus pyogenes* and coagulase negative *Staphylococci*.^{3,4,5,6} This condition clinically resembles with that of eumycotic mycetoma (fungal) and actinomycosis. The nomenclature is a misnomer as it is caused by true bacteria and not by fungus.

Case Report

A fifty two year old male presented with multiple erythematous fluctuant and necrotic skin lesions and oedema on back for past one year, most of which were discharging purulent material. On enquiring, history of trauma while carrying wood logs was given by the patient. Following trauma, within two days period he developed a single nodule on the back which gradually progressed to multiple nodules, with development of multiple discharging sinuses as shown in figure 1. However, there was no history of granules coming out of the sinuses. On examination vital signs of the patient were normal and systemic examination did not reveal anything significant to the case. Investigations showed total leucocyte count – 15,077 cells/mm³, polymorphs – 65, lymphocytes – 30, eosinophils – 5 and platelets – 2,50,000 cells/mm³. ESR was 42mm at the end of 1 hour. Blood sugar level was normal. His HIV status was nonreactive.



Figure 1

Pus from the lesion was collected with swab and was processed in our laboratory for gram stain, 10% KOH mount, routine bacterial culture and fungal culture. Gram stain examination of sample showed pus cells and gram positive cocci in clusters. No fungal element was seen in gram stain and in 10% KOH mount. Routine bacteriological culture revealed pure growth of *Staphylococcus aureus* and was confirmed by standard bacteriological procedures as described by Mackie and Mc cartney.⁷ The isolate was found sensitive to co-trimoxazole, clindamycin and linezolid. Fungal cultures on SDA did not yield any growth when incubated up to three weeks. Histopathological examination done outside showed chronic non specific inflammation and there was no evidence of fungal infection. As per the sensitivity report, treatment was started with co-trimoxazole for 15 days. After 15 days, the clinical examination showed drying of few sinuses. He was asked to continue cotrimoxazole for 1 more month and was advised to come for follow up. However, patient did not come for follow up.

Discussion

Botryomycosis may present in cutaneous or visceral forms⁸. Predisposing factors include trauma, immunosuppression, chronic alcoholism and diabetes mellitus.⁹ In the primary cutaneous form, single or multiple abscesses of skin and subcutaneous tissues breakdown to discharge serous fluid with or without granules through multiple sinuses, and heal after an

antibiotic course of several weeks to months.^{1,3,10,11} This case presented with classical morphology of multiple discharging sinuses without granules over the back with predisposing factor of trauma. Pus culture showed growth of *Staphylococcus aureus*. Patient was treated with cotrimoxazole which yielded good results as drying of sinuses and reduction in oedema was noted, which was consistent with most reported cases where treatment with cotrimoxazole for several weeks to months proved to be promising.^{3,4} Botryomycosis of the skin and subcutaneous tissue should be differentiated from eumycotic mycetoma and actinomycosis which present with similar clinical features. Proper identification of the aetiological agent is important for proper management of cases as the treatment varies according to the aetiology.

References

1. J Z Makama, N Khan, N Z Makhanya. Botryomycosis—Case report. SA Journal of Radiology, March 2006;14-15.
2. Bacterial infections. In: James WD, Berger TG, Elston DM, editors. Andrews ' diseases of the skin: Clinical dermatology, 11th ed. Elsevier; 2011.p. 250.
3. Nirmaladevi P *et al.* An case of cutaneous botryomycosis. Tejms 2011;1;16-17
4. Botryomycosis. In: Roberto Arenas and Roberto Estrada, editors. Tropical Dermatology, 1sted. Landes Bioscience; 2001;47-48
5. Bonifaz A, Carrasco E. Botryomycosis. Int J Dermatol 1996;35:381-8
6. Sivaraj S, MuthuSekhar MR, Baig MF. Micrococcal botryomycosis of the left temporal region. Indian J Dent Res 2007;18(3):131-134.
7. Baird D. Staphylococcus. Cluster- forming gram positive cocci. Chapter 11 in Mackie and Mc Cartney practical medical microbiology 14th edition, J Gerald Collee, Barrie P. Marmion, Andrew G Fraser, Anthony Simmons Churchill Livingstone Newyork Edinburgh London 1996: 246-247
8. B Devi *et al.* Botryomycosis. Indian J Dermatol 2013;58:406.
9. R. J. Hay and B. M. Adriaans. Bacterial Infections; Rook's textbook of Dermatology; Ch 30; 3067-3068.
10. Manjula A. Vagarali, Shankar G. Karadesai and Sumati A. Hogde. Botryomycosis Due to Staphylococcus Aureus – A Case Report. Al Ameen J Med Science 2012;5 (2):203-204.
11. Inamdar C A, Nagalotimath S J. Botryomycosis. Indian J Dermatol Venerol Leprol 1994;60:108-9.