



Extensive Actinomycosis- A Case Report

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ABSTRACT

Actinomycosis is a fading entity in today's world. Due to the widespread early use of antibiotics its incidence has been decreasing. In this report, we present a rare case of extensive disseminated actinomycosis in an unusual site- the back and discuss relevant features in management of this disease

KEYWORDS : actinomycosis, cutaneous, disseminated

Introduction

Is a Gram positive anaerobic infection with a propensity to invade through tissue spaces. It is relatively rare in today's world owing to widespread use of antibiotics. In the US its incidence is one per 3 million compared to one per million in Netherlands and Germany¹. In this case report we describe a case of actinomycosis which is in a very unusual site- the entire back. The disease had also disseminated to involve the liver and bone.

Case Description

22 year old agricultural labourer presented to the outpatient department with a large growth involving his entire back. The growth had started following a simple procedure for excision of a carbuncle done in his home town 2 years ago. It had progressively enlarged and started to discharge pus and black granules over the last few months. He had also started to develop jaundice over the last few months.

On examination there was a large mass (figure 1) involving his entire back with multiple discharging sinuses. A few black granules were visible. He also had icterus and shifting dullness on examination.

Laboratory investigations showed elevated counts and mild indirect hyperbilirubinemia. Biopsy from the mass lesion (figure 2) showed a subcutaneous abscess with zones of granulation and fibrous tissue at the periphery of the abscess cavities containing eosinophilic material neutrophils, lymphocytes, plasma cells and some histiocytes (Splendore Hoeppli phenomenon). Occasional granules are present within the abscess cavity. The granules were composed of numerous slender beaded filaments that tend to be crowded at the periphery of the granules (Figure 3). They were PAS positive. Gram's stain was non-contributory. There were no granules present in the silver stains. Serial cultures were taken which failed to show growth of the organism.

MRI of the back and CT of the thorax and abdomen were done to look for the extent of involvement. MRI of the back (figure 4) showed a large growth from the C7 spinous process down to the lumbar region mainly involving skin and subcutaneous tissue which did not extend to involve the bone or underlying lung tissue. CT of the thorax (figure 5) showed that the lesion did not invade into the pleura or the lung.

Owing to the extensive nature of the disease, the patient was screened for an underlying immune-compromised state like, HIV, diabetes, chronic kidney disease, SCID, lymphomas and leukaemia, Cushing's disease and isolated CD4 deficiency. All these tests were negative.

Discussion

Disseminated actinomycosis is a rare disease with only few case re-

ports literature of the same. Actinomycosis is a commensal normally present in the oropharynx and GI tract. Cervico- facial lesions are more common after dental procedures.

Its clinical picture varies extensively depending on the anatomical site involved². Common sites involved include the cervico-facial, pulmonary, abdominal and bone and joint³. Other sites that have been described are the limbs, although this a rare presentation of the same⁴. Primary muscle disease is rare. In this case report, we describe a case of actinomycosis involving predominantly the skin and muscle of the upper back with involvement of contiguous bone. The site was unusual and it followed a surgical instrumentation of the same region.

The clinical presentation can closely mimic a malignancy or tuberculosis since it does not respect tissue boundaries⁵.

Diagnosis is usually made on a tissue biopsy showing sulphur granules seen as basophilic masses on haematoxylin and eosin stains with eosinophilic terminal clubs⁶.

Culture usually remains sterile in more than 50% of cases. Gram staining has a better yield than culture. It may show presence of gram positive filamentous forms which are corroborate with clinical findings and diagnose actinomycosis. It is a difficult organism to culture because of its micro-aerophilic and anaerobic properties. Very often previous antimicrobial therapy, concomitant growth of other contaminants or super-added infections and short term incubation prevent adequate culture of these organisms⁷. The use of semi-selective culture media may increase isolation rates by preventing growth of other bacteria⁸.

Cervico- facial involvement (lumpy Jaw) is usually after dental manipulation or trauma to the mouth. Thoracic actinomycosis usually is preceded by a history of aspiration. Abdominal actinomycosis usually follows abdominal surgery. Pelvic actinomycosis usually follows use of an IUCD.

Our patient was given Benzyl Penicillin G every 4 hours for 2 months. He is planned for an oral course of antibiotic for 1 year owing to the extensive nature of the disease. He is also planned for a surgical debridement of the lesion at a later date when disease burden might be less.

Conclusion

Disseminated actinomycosis is a rare disease in today. In our patient the site of presentation of cutaneous actinomycosis is unusual and has not been reported before.

Figures attached with the article

Figure 1: Clinical picture of the back of the patient with an extensive exophytic growth extending from the neck of neck till 3cm above the iliac crest. Multiple discharging sinuses also seen with black granules.



Figure 2: H and E stain, 5X power, biopsy from the mass lesion showing extensive infiltration of neutrophils, lymphocytes with an area of subcutaneous abscess formation abutting onto muscle tissue not infiltrating it.

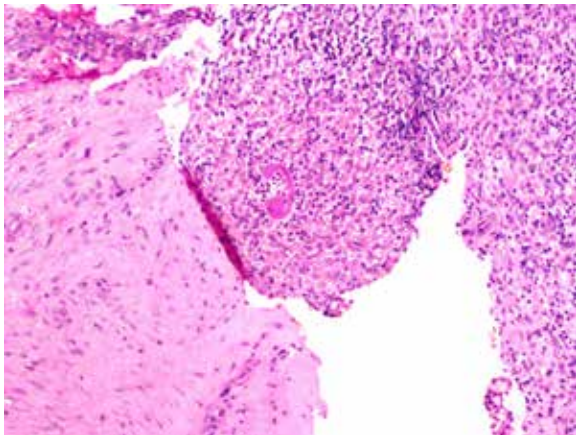


Figure 3: H and E stain, 40X power, biopsy from the lesion showing subcutaneous abscess with zones of granulation and fibrous tissue at the periphery of the abscess cavities containing eosinophilic material neutrophils, lymphocytes, plasma cells and some histiocytes (Splendore Hoespli phenomenon).

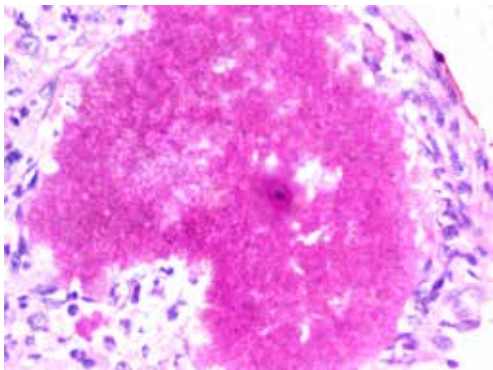
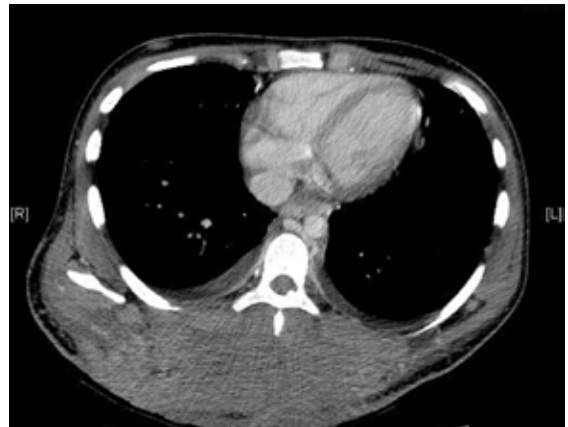


Figure 4: MRI spine lateral view showing an extensive subcutaneous growth involving the entire back, not extending into the bone or spinal cord.



Figure 5: CT of the Thorax showing subcutaneous growth involving only the skin and subcutaneous tissue with no involvement of the lung or pleura.



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