Case Report

MYCETOMA CAUSED BY NOCARDIA ASTEROIDES

M. Ravaghi and M. Aflatouni

Nocardiasis is a chronic, recurrent and progressive disease associated in 85% of cases with pulmonary lesions and in 30% with cutaneous eruptions. Males are affected twice as often as females and the age group lies between the second and sixth decades. The chief causative agent of Nocardia Asteroides is an aerobic, acid fast and gram positive organism and belongs to the actinomycetal family. Nocardia brasiliens belongs to the same group but is not so pathogenic. The first case of Nocardiasis in cattle was reported in 1888 in Guandalu. Epinger notified the first incidence in man in 1890.

Nocardiasis is found in association with leukaemia, diabetes, Lymphomas and in patients receiving immunosuppressives and antimitotics. The microscopic picture is of an inflammatory reaction with scattered giant cells in the infiltrate. The central area shows necrosis and the periphery is lined by a layer of fibroblasts. The treatment depends on the type of the immunological reaction.

Case Report

A 42 year old rice farmer from Khalkhal (north west Iran) was admitted to Razi Hospital, Teheran in January 1973, with ulceration of the left leg. The lesion had started 9 months earlier as erythematous macules on the anterior aspect of the left leg which gradually progressed to multiple hypertrophic ulcers with areas of central necrosis. The ulcers were round or oval in shape measuring 2-5cm in diameter, fragile and bled easily (Fig 1).

Fig. 1: Leg Ulcer

Razi Hospital, University of Teheran, Teheran (Iran).

No similar involvement was reported amongst the family or other community members. The systemic examination revealed no abnormalities and haematology and urine analysis results were within normal limits. Blood sugar, uric acid, BUN, Serum Calcium and Phosphorus and immunoelectrophoresis gave normal results. Chest X-ray, Barium swallow, Barium meal and Barium enema showed no abnormal findings. The pus smear from the ulcers, stained by the Gram method showed branching hyphae conforming with Nocardia Asteroides. Pus culture on Sabourauds agar showed folded glaborous colonies of a creamy colour consistent with Nocardia Asteroides (Fig 2).

The ulcer biopsy revealed irregular epidermal atrophy with a granulomatous reaction in the corium with micro-abscesses containing PAS positive acid fast granules. These changes were interpreted as mycotic granuloma (Fig 3).

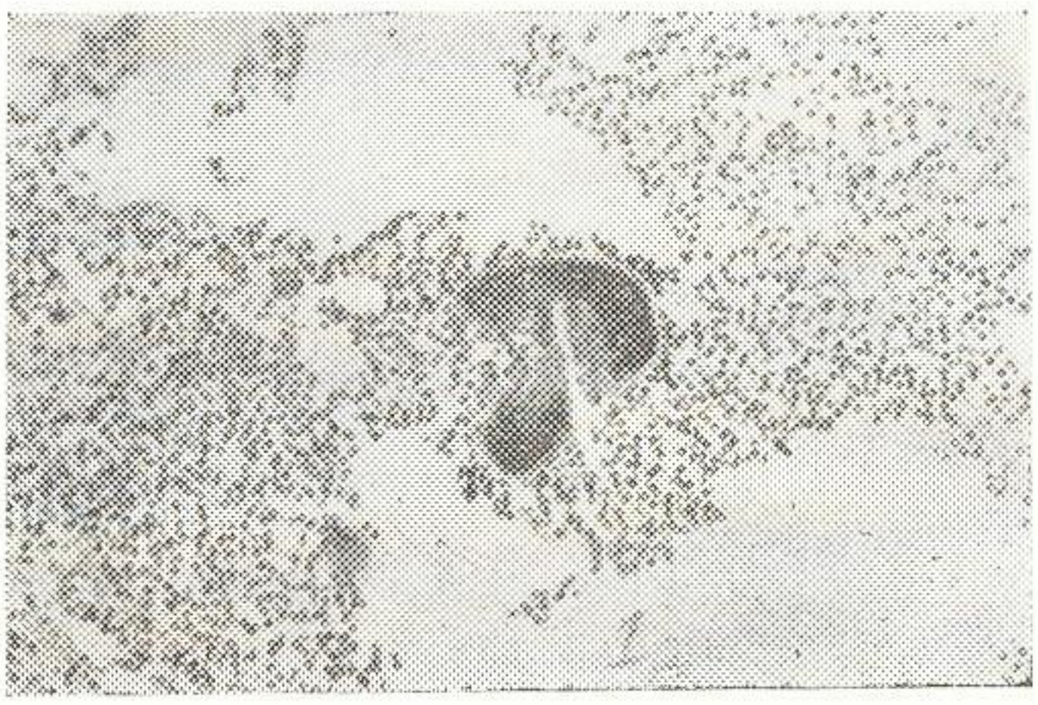

Fig. 2: Pus Smear

Fig. 3: Ulcer Biopsy

The treatment was started with 5,000,000 units Procaine Penicillin, and 2 Gm Streptomycin parenterally and 4 Gm Sulphonamide orally daily, in divided doses. No improvement was observed in a month. Streptomycin was discontinued and superficial resection of the ulcers was carried out. The ulcer resumed its original form in a weeks time. Chemotherapy was discontinued after two months as there were no signs of improvement. Potassium Iodide 3 Gm

daily orally was tried next with no satisfactory results. Bay 5097 in a dose of 50 mg/kg orally along with Conestene Cream locally was given a trial for 20 days with no success. The general condition of the patient gradually deteriorated in a few months. He lost weight and developed anaemia. Finally amputation of the affected leg was performed in August 1973. Three weeks post-operatively the patient was discharged from hospital and was followed up in the out-patients department for a year. He remained in good health with no signs of infection and a normal blood count.

Comments

During the last 5 years six cases of mycetoma have been referred to the Razi Hospital, Thehran. Nocardia Asteroides was found to be the causative agent in one case only. Five of the patients were males, all being rice farmers, and one was a female. All of them belonged to Northern Iran which has a mediterranean climate. Treatment of the condition still remains unsatisfactory and ineffective and amputation may have to be performed as a last resort.

References

Hildick-Smith, G., Blank, H. and Sarkan, I. Fungus diseases and their treatment. London, Churchill, 1964, pp. 303.

Civatta, J. Histopathologie cutanee. Paris, Flamarion, 1970, p. 35.

Ansel, M.:Mycoses et champignons parasites de l'homme. 23. Paris. G. Dp Doin, 1957.

Coudert, J. Guide pratique de mycologie medical. 100. Paris, Masson, 1955.

Bourdon, J.L. et al Fiches techniques de mycologie courante, Paris, I'expention Scientifique Francaise, 1963.