

MYCETOMA WITH HAEMATOGENOUS DISSEMINATION

(A Case Report)

By

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Mycetoma is a clinical entity by itself, usually confined to feet and hands differing from other mycoses in not showing systemic features. Different aetiological agents not belonging to the same group of fungi produce more or less the same picture i.e. swelling of the foot with sinuses and discharging pus of different colours. Mycetomas are usually caused by Actinomycetes (*Nocardia brasiliensis* and *N. caviae*, *Streptomyces madurae*, *S. pelliterie*, *S. somaliensis*) and higher fungi (*Madurella mycetomi*, *M. grisea*, *Allescheria boydii*, *Curvularia lanata*, *Cephalosporium* sp. etc.,). The natural habitat of all these causative agents is soil.

A case of Nocardial Mycetoma (with haematogenous dissemination) admitted in this hospital is described below:

A female aged 25 years felt pain in the left foot and difficulty in walking 9 years ago. There was no history of trauma or upper respiratory tract infection. There was no cough, fever or expectoration. Few months later she developed one swelling each, on lateral and medial sides of left foot. Soon they burst out leaving a discharging sinus in each. Two years after developing the lesions on foot nodular lesions appeared scattered all over. At that time she had intense pruritus. The nodules subsided leaving atrophic pigmented patches. There was no pus from these nodules and patches. But since 3 years she developed two more swellings on the medial side of left foot below the malleolus. Two months later, they burst out discharging yellowish pus. On examination, there was a diffuse swelling of about 4"x2" below the medial malleolus. There was moderate pain and induration and slight pitting on pressure over the area. The convex surface showed three sinuses from which exuded yellowish pus without any granules. The other two sinuses were covered with crusts. The open sinus had an oblique tract of about ½" without being in contact with bone. Crusts over the other two sinuses were removed and examined with a probe. They showed no connection with the previous sinuses and have shorter fistulous tracts.

The pigmented patches on the skin were forty two in number occurring behind both ears, scalp, face (fig, 2) front of chest (fig) right forearm and left elbow etc. There were no masses felt in the abdomen. The inguinal glands were enlarged and discrete but not painful. Other glands were not palpable.

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(Fig. 2.)

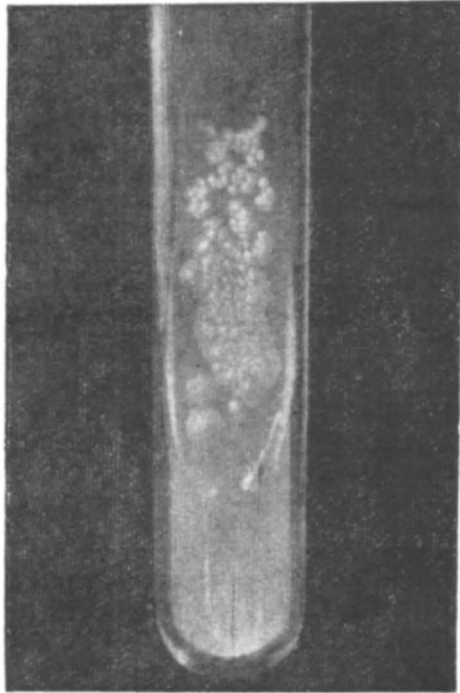


Family History: She is leading a married life since 10 years and has no children. There is no history of abortions. Her husband and her three younger brothers are free from such conditions.

Investigations: Total and differential counts were within normal limits.

Blood E. S. R.:— 91 mm. 1st hour. Blood VDRL:— Negative Urine:— Negative for albumin, sugar and R. B. C. X-ray:— Not taken Mycology:— Direct examination: Pus did not reveal any grains or granules. Gram stain:—Showed gram + ve rods. AF stain:— Partially acid fast.

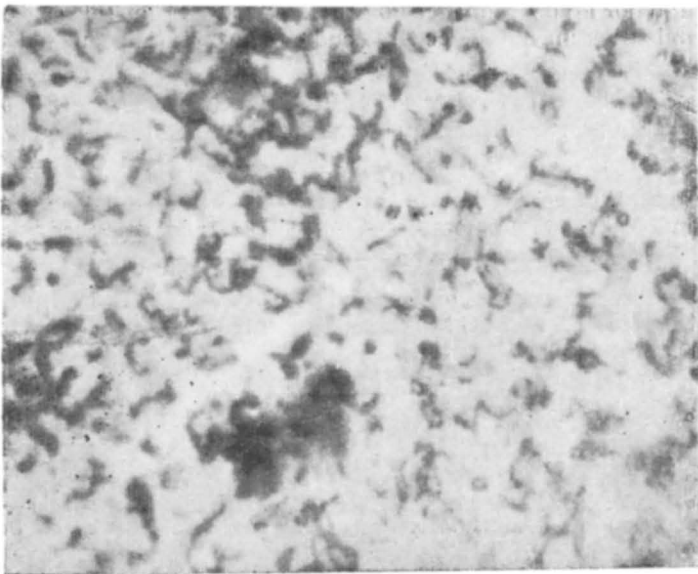
Culture:— The material from sinus and biopsy material from several lesions on the skin were inoculated on two different sets of Sabouraud dextrose slants (one without antibiotics and the other with chloramphenicol and actidione) and incubated at room temperature as well as at 37°C. Fast growing orange red colonies appeared after few days of incubation both at room temperature and 37°C (fig. 4) on the slants without antibiotics.



(Fig. 4.)

The colonies attained a maximum size of about 5 mm. in three weeks time.

The microscopic examination of the culture showed gram+ve branched bacillary forms with occasional short mycelium (fig. 5).



(Fig. 5.)

These filaments were partially acid fast. When the organism was inoculated on casein plates a clear transarent zone was noticed around the colonies indicating the hydrolysis.

Animal

Inoculations:— Intra-peritoneal injection of the culture suspended in normal saline did not affect the guinea pigs as they appeared to be healthy even after a fortnight. But on sacrificing the animals the following were the findings: The peritoneal wall was normal. No omental adhesions were found. There were no generalised abscesses. But one localised abscess of the size of $\frac{3}{4}$ " diameter was found in the pubic region with pus formation. Adhesion abscess was noticed. Both the lungs were congested. The pancreas normal. The same organism could be recovered from the pus aspirated from the abscess, when the same was inoculated on Sab. Dex. slants without antibiotics and incubated at room temperature and 37°C.

Treatment:— The patient improved with streptopenicillin and sulphamezathine.

Comments: The predominant feature of the case is a swelling of foot with sinuses and lesions elsewhere on the skin. This tumefaction in the subcutaneous tissues (Mycetoma) could be caused by either Actinomycetes or higher fungi. Clinically swelling of the foot with intense inflammatory induration after which deep abscesses develop followed by sinus formation and sulfur granules in the pus, is an indication for Actinomycotic infection. None of these features are present here. On the other hand, the higher fungi also develop the same clinical picture but very insidiously, discharging multi coloured pus and without any haematogenous dissemination. But in this case the pus was yellowish without any sort of granules and the skin lesions developed two years later. This made us investigate for *Nocardia*. Microscopy of culture showed bacillary forms as in *Streptomyces*. But the branched forms with occasional short mycelium and their partially acid fast character and casein hydrolysis rule out *Streptomyces* and also *Nocardia caviae*. The same organism was recovered from several skin lesions also. Hence it would not be incorrect to suppose that these skin lesions have been caused by haematogenous dissemination from the foot. It is quite possible to think that the original foot lesion was due to introduction of organisms from outside by a minor injury unnoticed by the patient. From this source haematogenous dissemination must have occurred and even then it is peculiar that brain and meninges were spared.

Though the overall evidence seems to be in favour of *Nocardia brasiliensis*, however it could not be confirmed due to failure to maintain the isolate.

SUMMARY

A case of mycetoma due to *Nocardia* sp. with haematogenous dissemination in skin without involving brain, meninges etc., was described.

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