

# CHROMOMYCOSIS DUE TO PHIALOPHORA PEDROSOI (with dimorphism in tissue)

K. RADHAKRISHNAMURTHY\*

## Summary

Three cases of chromomycosis proved histopathologically are reported. In one case *Phialophora pedrosoi* was grown in culture which was confirmed by the Mycological Reference Laboratory, London. The saprobic form could also be seen in tissues. The significance of this finding is discussed. Hamycin was found useful in controlling itching.

## Key words

“Chromomycosis” “Saprobic form”

Chromomycosis, which was previously called chromoblastomycosis, is a chronic granulomatous mycotic infection of skin and subcutaneous tissues. Clinically it manifests itself with intense itching, warty growths, psoriasiform lesions, infiltrated plaques or ulcerating masses. Reports of this disease in literature are not many. This report presents three cases seen in the Department of Dermatology of M.G.M. Hospital, Warangal for some of their interesting features.

### Case History

#### Case 1

A male aged 40 years, resident of Karimnagar, Andhra Pradesh, was working as a coal filler in Kothagudem mines. In 1960 when he was at work,

he sustained a minor injury on the left leg. It became verrucous in about a month. Slowly it spread downwards and involved the lower 2/3 of the leg over a period of 12 years (Fig. 1). There was no ulceration at any time. Itching was intractable all along, incapacitating the patient from doing his normal work. Otherwise his general health remained good. In several hospitals he was treated under different diagnoses. In June 1973 he attended M.G.M. Hospital. Examination at that time revealed apart from the above verrucous lesions, prominent veins on the left thigh and abdominal wall and enlarged lymph glands in the left groin. There were no masses in the abdomen. Liver and spleen were not palpable. There was no tenderness in the muscles of the limbs. Heart and lungs were normal.

#### Case 2

A male aged 43 years, another resident of Karimnagar, was examined in

\* Civil Surgeon R.M.O.  
I.B. Hospital, Hanamkonda  
Warangal (A.P.)  
(Formerly Dermatologist & Venereologist,  
M.G.M. Hospital, Warangal)



**Fig. 1**  
Verrucous lesions on leg.

1974 for skin lesions. Two years prior to that, he developed itching on medial side of right foot. Slowly verrucous lesions developed and later spread to outer side and to the sole of foot. There was no ulcer or evidence of pus.

#### Case 3

A male aged 60 years, a resident of Khammam, was examined in 1974 for a warty swelling on left foot. He gave a history of thorn prick initially which was followed by intense itching at that site. In about six months a swelling about 2" X 1" developed on the dorsum of the left foot near the fifth little toe. It was verrucous.

#### Investigations

Blood picture, urine, stools and X-ray of the affected area were

normal in all the cases. VDRL was non reactive.

#### Culture

Contaminants grew from biopsy materials in cases 2 & 3. Case 1 yielded the fungus *Phialophora pedrosoi* (Fig. 2).

#### Histopathology

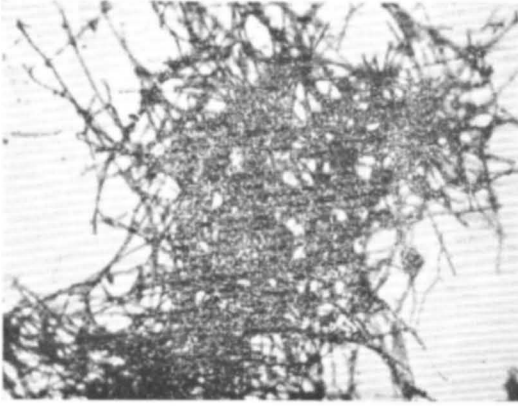
In all cases there was hyperplasia of the epidermis. Dermis showed chronic inflammatory cells and giant cells. Characteristic sclerotic and septate dematiaceous bodies were seen in H & E, PAS and Giemsa stains (Fig. 3). In case 1, mycelia were also seen in PAS sections.

#### Treatment

Hamycin tablets and antihistamines were given. Excision was done in one case.

#### Discussion

This rare mycosis is caused by *Cladosporium carrionii*, *Phialophora pedrosoi*, *P. verrucosa*, *P. compacta* and *P. dermatidis*. These pathogens are slow growing and cannot liquefy gelatin as against the saprophytic *Cladosporium* species which is rapid growing and can liquefy gelatin. Sometimes it is not uncommon for a saprophyte like *Cladosporium* species to become a pathogen and produce the disease<sup>1,2</sup>. Thus all the above mentioned organisms are capable of producing ulcerated, crusted or verrucous lesions which may be pedunculated or cauliflower-like. The rarity of the condition probably leads to a low suspicion index among the medical practitioners and pathologists. This would explain why case 1 was treated as tuberculosis of skin, varicose eczema, chronic dermatitis etc. in different hospitals. The intense itching and slowly spreading dry verrucous



**Fig. 2**  
Dematiaceous fungus *Phialophora pedrosoi* (X 100)

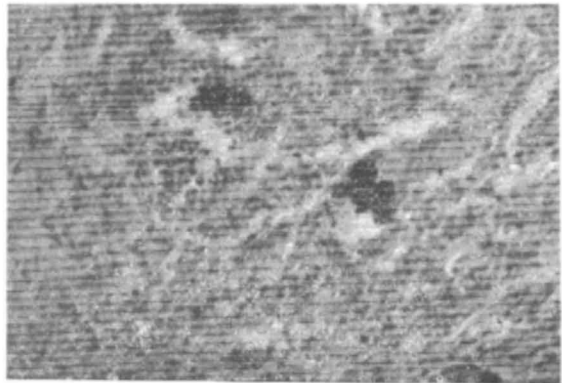
lesions pointed to a diagnosis of chromomycosis.

Culture from the biopsy material of the cases was done in the Department of Botany, Kakatiya Medical College. Contaminants grew in cases 2 & 3. In case 1, a dematiaceous fungus belonging to the genus *Phialophora* was isolated. The species was identified as *P. pedrosoi* by the Mycological Reference Laboratory, London.

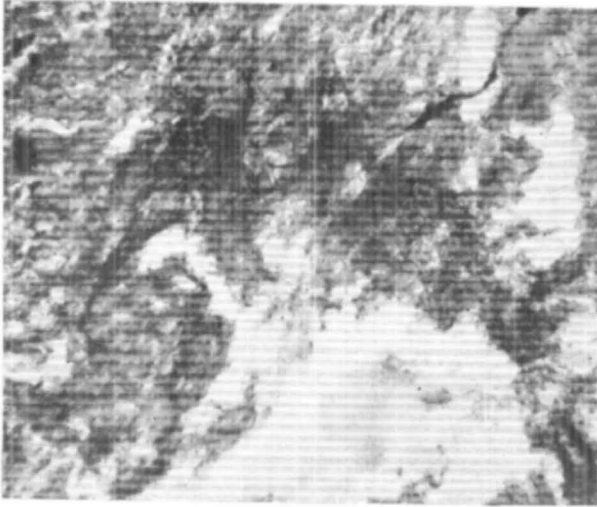
Histopathologically all specimens showed the characteristic parasitic forms i.e., sclerotic septate bodies in giant cells in different stains. Their appearance in the tissues is so characteristic that a diagnosis of chromomycosis can be made on the basis of histological finding even in the absence

of culture confirmation. These fungi characteristically exhibit di-morphism i.e., parasitic tissue form and saprobic mycelial form. The saprobic form is said to be not seen in tissues. The parasitic forms of different species show in this disease identical features in biopsy specimens. A specific species diagnosis can therefore be made only with the aid of culture.

Bhaktaviziam et al<sup>3</sup> have reported fungal elements of chromomycosis in a PAS stained direct smear from lesions. Rajam et al<sup>4</sup> studied a case which showed both yeast and mycelial phases in tissues and culture. It is interesting to note that the case reported from our hospital in 1967<sup>1</sup> caused by "*Cladosporium species*" also showed saprobic forms in tissues<sup>2</sup> in addition to the usual parasitic forms.



**Fig. 3**  
Sclerotic septate thick walled bodies. (Giemsa stain X 100)

**Fig. 4**

*Phialophora pedrosoi* in tissue showing filaments (PAS X 100)

It would therefore be reasonable to believe that saprobic forms of dematiaceous fungi are not rare in tissues. One wonders if sometimes saprobic forms may be the only evidence of the fungus in a tissue specimen. However the filaments do not possess any identifiable characteristic features unlike the pigmented parasitic spore forms. Without further observations it is not possible to suggest that in a clinically suspected lesion, presence of the saprobic filamentous forms alone in biopsy specimens should be considered confirmatory evidence of chromomycosis.

Cases 1 & 2 showed marked improvement in itching with hamycin 2 tablets thrice daily for ten days. Lesions also slightly flattened. In case 3 where the lesion was small, it was excised.

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