

## SIDE LAB DIAGNOSIS OF CHROMOBLASTOMYCOSIS

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A 35-year-old male having erythematous and verrucous plaques and scars on his right lower limb, diagnosed as a case of chromoblastomycosis is described. The importance of close scrutiny of lesions for brownish-black dots and their direct microscopic examination in 10% KOH for the causative fungus is highlighted. The causative fungus was identified as *Cladosporium carrionii*

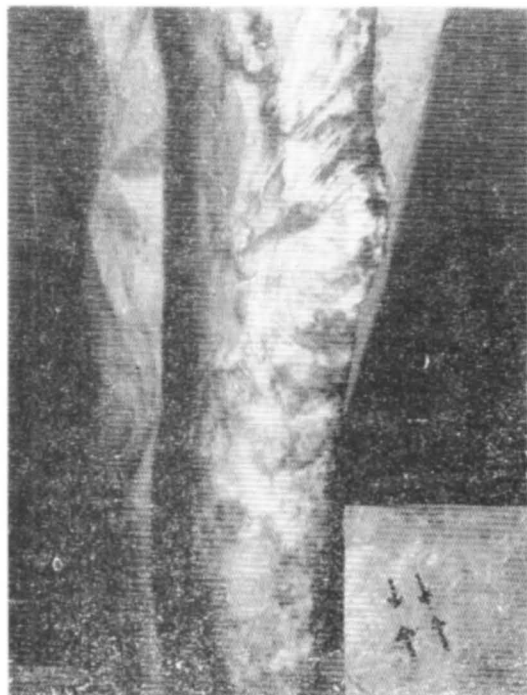
**Key words :** Chromoblastomycosis, Sclerotic bodies, Brownish-black dots, KOH mount, *Cladosporium carrionii*.

Chromoblastomycosis is a chronic infection of the skin and subcutaneous tissue caused by members of Dematiaceous fungi e.g. *Phialophora verrucosa*, *P. pedrosoi*, *P. compactum*, *P. dermatitidis*, *Cladosporium carrionii*, and rarely by *Exophiala jeanselmei*.<sup>1</sup> Diagnosis of chromoblastomycosis is generally made on clinical findings and confirmed by the demonstration of sclerotic bodies or copper pennies or Medlar bodies in the tissues, and mycologic culture which takes a minimum of a week and sometimes even more. We suggest close scrutiny of the lesions for tell-tale black dots and their direct microscopic examination for the rapid diagnosis of this entity.

**Case Report**

A 35-year-old sikh male had erythematous and verrucous lesions over the right lower extremity for nearly two decades. The initial lesion was noted over the right knee as an erythematous plaque which gradually spread to involve the thigh, lower leg, dorsum of foot and the ankle. The lesions extended at the periphery and healed in the centre. Oedema of the affected foot had become evident since one year. There was no history of preceding trauma. General health of the patient was not affected. Treatment with isoniazid and streptomycin for three

months had not produced significant improvement. General physical and systemic examination was essentially normal. Cutaneous examination revealed erythematous and verrucous, almost continuous linear plaques extending from the dorsum of the foot to the lower half of the right thigh (Fig. 1). The lesions around the ankle and foot were more verrucous and hypertrophic. Some areas were smooth and shiny. Firm and round, subcutaneous nodules,



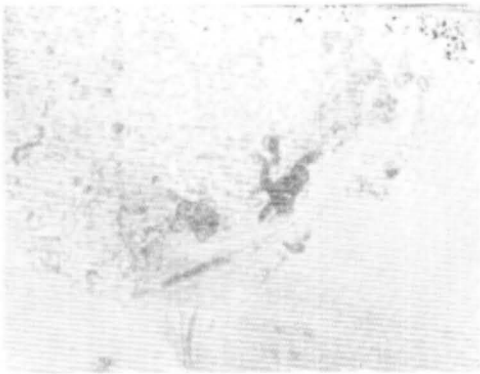
**Fig. 1.** Verrucous plaques and atrophic scars over the thigh and leg. Inset shows brownish-black dots.

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6-10 mm in size were felt in the upper thigh. Scarring was evident on the thigh and lower leg. Right superficial inguinal lymph nodes were enlarged, firm, mobile and non-tender. After thorough cleaning and close examination, 0.2-0.3 mm size brownish-black dots were visible in the hyperkeratotic lesions scattered over the thigh and leg (Fig. 1 inset).

Hemoglobin, total and differential leucocyte counts, total eosinophil count, hepatic and renal functions, skiagrams of the chest and the affected limb were normal. Smear for AFB and culture for typical and atypical mycobacteria were negative. Black dots from the lesions were taken on the slide with a scalpel and kept in 10% KOH for 15-20 minutes. Examination under low power showed the black dots to be blood-like reddish-brown material. Round to oval, brown, thick-walled bodies, 6-7  $\mu\text{m}$  size were seen in bunches under higher magnification. Some of these sclerotic bodies also showed germinating hyphae (Fig. 2). These bodies

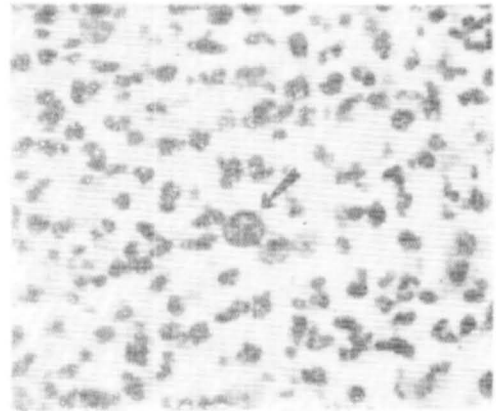


**Fig. 2.** Two bunches of sclerotic bodies and germinating hyphae (KOH mount).

were found near the reddish brown material. Scraping of the lesions adjacent to the black dots showed clusters of branching, non-septate fungal hyphae.

Skin biopsy revealed hyperkeratosis and acanthosis, along with an intense infiltrate in

the upper and middle dermis forming granulomas consisting of histiocytes, lymphocytes and giant cells of Langhans' and foreign body type. Focal collections of polymorphs and a few eosinophils were also present. The sclerotic bodies were seen adjacent to these polymorphic abscesses (Fig. 3). Culture from the biopsy specimen grew *Cladosporium carrionni*.



**Fig. 3.** Sclerotic bodies in the inflammatory reaction (H & E x 540).

### Comments

Chromoblastomycosis is an uncommon deep fungal infection of the skin in India. The areas involved are extremities, face and neck. Rarely, the whole body may be involved. The lesions are usually verrucous, though in addition, atrophic annular plaques with peripheral activity may be present. Black dots are usually present on the surface of the verrucous plaques. These however, are not diagnostic of chromoblastomycosis, because these may also be seen in sporotrichosis, North and South American blastomycosis, verruca, bromoderma, cutaneous leishmaniasis, cutaneous tuberculosis and even squamous cell carcinoma.<sup>2</sup> The black dots represent hemorrhagic dermal reaction to the presence of fungus that is in the process of transepidermal elimination. The study of black dots offers a single, quick, side lab investigation for the diagnosis of chromoblastomycosis.

Black dots have not been mentioned in case reports of chromoblastomycosis from India.<sup>3-9</sup> Direct microscopic examination for fungus was positive in three of the thirteen above case reports where it was attempted. It is suggested that all the suspected cases of chromoblastomycosis should be carefully examined for black dots and direct microscopy performed to confirm the diagnosis quickly.

### References

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