

Carta al Director

Tinea faciei in a goat handler due to *Microsporium canis*

Dear Editor,

Microsporium canis, a zoophilic dermatophyte, was established as the prime cause of tinea faciei in a 27-year-old male patient who was occupationally exposed to the animal. The diagnosis was based on the direct demonstration of hyaline, slender, septate, branched hyphae of dermatophyte in the cutaneous lesions by potassium hydroxide technique and the isolation of *M. canis* in pure and luxuriant growth from the clinical specimen on Sabouraud agar and dermatophyte test medium. The retrospective epidemiological investigation indicated that the patient acquired the infection from his six-month-old female goat that had ringworm type lesions on the head and neck region. The mycological examination of the clinical material from the diseased goat also revealed the presence of *M. canis*. The detailed morphology of the human and caprine isolate was studied in Narayan stain. It is suggested that ringworm in a man with a history of exposure to an animal should be thoroughly investigated for zoophilic dermatophytes.

Tinea faciei is the ringworm of the face and is caused by dermatophytic fungi such as *Microsporium audouinii*, *M. canis*, *Microsporium gypseum*, *Microsporium nanum*, *Trichophyton concentricum*, *Trichophyton mentagrophytes*, *Trichophyton rubrum* and *Trichophyton verrucosum* [1,4]. The literature scan reveals paucity of information on tinea faciei from India [5]. The present communication, therefore, describes a case of tinea faciei in a young adult animal handler due to *M. canis*. In addition, the use of Narayan stain for the morphological studies of the dermatophytes is also reported.

The skin scrapings collected from the margins of most recent lesions in the man and the animal with the help of sterilized scalpel in a clean black coloured paper constituted the material for the investigation. The affected hair from the skin of the head and neck of the goat were also plucked with sterile forceps.

The samples were processed in the laboratory of Veterinary Public Health. The patient's lesion was examined by Wood's lamp. The specimens were treated with 15% solution of potassium hydroxide and examined microscopically for the presence of the fungal elements, if any. The specimen from the patient as well as the diseased goat were cultured on to the duplicate slants of Sabouraud dextrose agar with chloramphenicol (0.05 mg/ml) and actidione (0.5 mg/ml) and on dermatophyte test medium (DTM). Sabouraud medium was incubated at 37 °C and DTM was kept at 20 °C. The incubated media were examined daily for fungal growth. The isolates were screened by hair perforation test using 1 cm long child hair. The detailed morphology of the dermatophytes was studied in Narayan stain [6]. The new stain contained 4 ml of glycerine, 0.5 ml of 3% methylene blue and 7 ml of dimethylsulfoxide. The patient was treated with clotrimazole and the goat with tolnaftate cream. The drugs were applied on the skin lesions two times daily for 3 weeks. The mycological follow-up of the drugs could not be attempted after the completion of medication.

The clinical examination of the patient showed one well defined, irregular, erythematous, oedematous, scaly patch about 2.5 cm in diameter on the skin of the forehead that appeared 18 days prior to the examination. The diseased goat had discrete, circular, scaly, and alopecic, crusty lesions on the head and neck. The patient lesion under ultraviolet light revealed bright green fluorescence. Microscopic examination of the KOH mounts showed hyaline, slender, branching hyphae with arthrospores morphologically diagnostic of dermatophytes.

On Sabouraud medium, the growth was cottony with yellow colour on the reverse (side) of the slants. The slants of DTM became red due to rise of pH through oxidative determination. Both the isolates of human and caprine origin exhibited wedge-shaped perforation in the hair of the patient child. The morphology of the cultures in Narayan stain showed numerous, multiseptate, spindle shaped, thick-walled macroconidia and few pear shaped or club shaped microconidia. The isolates were identified as *M. canis* [7] and no cultural and morphological difference could be noticed in human and caprine strains of *M. canis*. Unfortunately, the department does not have the facility for detailed characterization of the strains at molecular level.

Good clinical response with no adverse side effects was noticed in the human as well as the animal. However, no mycological follow up of the patients was done to assess the efficacy of the drugs 27 days after treatment.

Tinea faciei is a superficial mycosis, which is reported from many countries of the world including India [4,5]. The role of many dermatophytes has been confirmed in the etiology of *tinea faciei* [5]. Clinical presentation, direct microscopy, cultural isolation and good clinical response established an unequivocal diagnosis of the disease in men as well as animals.

Intrafamilial transmission of zoophilic dermatophytes due to occupational exposure has been reported [8]. The authors described *tinea faciei* in a 4-week-old infant whose father being a farmer had frequent contacts with diseased cattle and developed *tinea barbae*. The cultural isolation of the skin scrapings from the son and father revealed the presence of *T. verrucosum*. In the present case, the epidemiological investigation established the source of infection in the immediate environment of the patient who had close contact with a diseased goat positive for *M. canis*. It is recommended that a ringworm affected person with occupational exposure to animals should undergo comprehensive mycological investigation to find out the etiologic significance of zoophilic dermatophytes, particularly *M. canis*, that has emerged an important pathogen of global significance. The authors are of the opinion that isolation and identification of dermatophyte to species level is highly imperative for epidemiological point of view.

To our knowledge this seems to be the first documented isolation of *M. canis* from human facial skin and also from the cutaneous lesions of the goat from this region of India.

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