

ZOOANTHROPONOSIS OF MICROSPORUM GYPSEUM INFECTION

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SUMMARY

A two month old German shepherd puppy with severe generalized itching and alopecic patches was brought at college clinics. History also revealed the presence of itching lesions on owner's leg for the last seven years. Microscopic examination of skin scrapings found *Microsporum gypseum* infection in dog as well as its owner. Further culture of scrapping on Sabouraud Dextrose agar found positive for *M. gypseum* infection. The dog was treated with griseofulvin orally @ 20 mg/kg body weight (b. i. d.), Micodin shampoo (Miconazole nitrate and Chlorhexidine gluconate) bath weekly and Wokazole lotion (Clobetasol 17 propionate, Gentamicin and Miconazole nitrate) locally for fifteen days. The owner got treatment as per the recommendation of dermatologist. Both owner and pet got recovered well after treatment for fifteen days. History, clinical findings and isolation of same strain from dog and its owner suggest as a case of zooanthroponosis.

Key words: Zooanthroponosis, *Microsporum gypseum*, dog

Zooanthroponosis is a type of zoonoses in which disease is transmitted from man to animal (Pal, 2007). *Microsporum gypseum* is a geophilic dermatophyte and causative agent of superficial mycoses. The source of human infection has been traced to soil, dogs and cats (Muller *et al.*, 1983). Pet animals usually acquire infection from soil or by direct contact with other animals and the incidence of getting infection from man is not reported. This report present a rare case of zooanthroponosis due to *M. gypseum*.

A two months old German shepherd puppy having severe generalized itching and alopecic patches was brought to TVCSC, Apollo College of Veterinary Medicine, Jaipur. Clinical history revealed that the pup initially had itching lesions on the face that eventually spread to all over body. Further it was revealed that owner had itching lesions on his leg for the last seven years that could not be cured despite of treatment with antibiotic and anti-allergic drugs.

Skin scraping from the dog as well as owner was collected as per the standard protocol (Quinn *et al.*, 1994). Wet mount of each skin sample with 10 % KOH was prepared and examined for the presence of macro-conidia and mycotic hyphae using standard techniques (Rippon, 1988). Simultaneously, the scrapings

were examined by fluorescent microscopy using Calcofluor white technique (Quinn *et al.*, 1994). Microscopic findings were finally confirmed by inoculating the material over Sabouraud Dextrose Agar (S.D.A.) plates (Hi-media) containing penicillin and streptomycin. Dermatophytes were identified using standard keys (Quinn *et al.*, 1994).

Microscopic examination of skin scrapping from the dog as well as its owner and inoculation of scraping on S.D.A. revealed *M. gypseum*. Further fluorescent microscopy of *M. gypseum* revealed green fluorescence of macroconidia. Mycological confirmation of *M. gypseum* infection of dog and his owner suggest that this is a clear case of zooanthroponosis. The dog was treated with griseofulvin orally @ 20 mg/kg body weight (b. i. d.), Micodin shampoo bath weekly and Wokazole lotion locally for fifteen days whereas the owner was referred to Sawai Man Singh Medical College Hospital, Jaipur for further treatment. Since long time contagious skin disease caused by dermatophyte in man and his domestic/companion animals has been a subject of interest. *M. gypseum* is a rapidly growing, geophilic dermatophyte found in small mammals, such as cats and rodents (Witezman and Summerbell, 1995). As *M. gypseum* elicits a strong foreign body reaction, human dermatophyte infection due to *M. gypseum* produces heavy inflammation.

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Fig. Itching lesions of *Microsporum gypseum* infection in dog (A) and human (B).

Many outbreaks have been reported in canine due to *M. gypseum* infection in India (Sindhu *et al.*, 1993) but there are scanty reports on *M. gypseum* infection in humans (Altera and Evolceanu, 1967, Alteras, 1972). Present observation of *M. gypseum* infection in human and its transmission to pet is evident from the presence of lesion at the face of the animal because in general the infection due to geophilic dermatophyte in dogs starts from in contact site with surface such as foot and belly region. Isolation of *M. gypseum* from dog and his owner strongly suggested that this is the case of zoonanthroponosis and as per literature this is the first report of zoonanthroponosis of *M. gypseum* infection in the country. The poor awareness about mycotic diseases, lack of diagnostic services and persistent neglected

attention as evidenced from sporadic publications on mycotic diseases accounts for the country wide high occurrence of dermatophytosis.

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