

CURVULARIA DERMATOMYCOSIS IN A JERSEY HEIFER: A CASE REPORT

S. QURESHI, S. A. WANI AND S. BEG

Division of Veterinary Microbiology and Immunology,
 Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir,
 Shuhama (Alusteng), Srinagar, Kashmir

ABSTRACT

A 2 year old Jersey heifer was presented to Veterinary Clinics, Faculty of Veterinary Sciences and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, with history of cutaneous Dermatomycois. Mycological screening of skin scrapings led to isolation and identification of *Curvularia spp.*

Key words: Curvularia, Dermatomycois, Jersey heifer.

INTRODUCTION

Curvularia species, one of the important members of family Dematiaceae (brown pigmented fungi), are a large and heterogenous group of moulds causing a wide range of diseases including phaeophycomycosis, chromoblastomycosis and eumycotic mycetomas. The organisms are wide spread in environment and are found in soil and plant debris. The infection is usually introduced by an abrading or penetrating injury. *Curvularia* species are relatively common pathogens of animals and humans (Thomas *et al.*, 1988), in both cases causing chronic non specific allergic sinusitis and traumatic skin infections (Sivanesan, 1987). The Present communication describes a case of dermatomycois caused by *Curvularia* species for the first time in Kashmir.

MATERIALS AND METHODS

A two year old crossbred Jersey heifer was presented to Department of Veterinary Clinics, Faculty of Veterinary Sciences and Animal Husbandry, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, with history of swollen paranasal sinuses and patchy, scaly cutaneous eruptions on nose, jaw, brisket and flank regions. The animal had not responded to routine antibiotic therapy for more than a week. The skin and hair scrapings were removed after disinfecting the skin with 70% alcohol. The isolation and identification of the fungus from the skin scrapings was performed following the methods described by Lagneau *et al.* (1998). Wet mounts of the skin scrapings were prepared in 20% potassium hydroxide and examined. The specimen was inoculated onto Sabraouds Dextrose agar. Mycological study was done by subculturing on slopes and plates of SDA

without antibiotics and incubation at 27-28°C for 10 days and 37°C for 1 week. Fungal colonies of the culture were examined for colony morphology and microscopically using Lactophenol cotton blue staining. The presence of conidia and other structures was recorded. Antifungal susceptibility testing was done using Clotrimazole (10 mcg), Nystatin (100 units), Ketoconazole (10 mcg) and Amphotericin (100 units) discs.

RESULTS AND DISCUSSION

Grossly, dark brown to black hairy expanded colonies on Sabraouds dextrose agar were observed. Microscopically, erect conidiophores, unbranched, septate, flexuose in apical part with smooth walled conidia (21-31 x 8.5-12 µm), three septate, ovalaceous to ellipsoidal, with subterminal cell swollen and distinctly larger than remaining cells were observed. The microscopic characteristics typical of *Curvularia* species were observed (Plates 1 and 2).

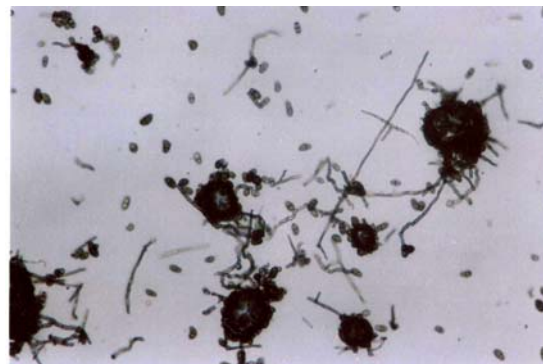


Plate1: Culture smear of *Curvularia* species (Lactophenol cotton blue, X 40).



Plate 2: Culture smear of *Curvularia* species (Lactophenol cotton blue, X 100).

Test revealed sensitivity to Clotrimazole, Ketoconazole and resistance to Amphotericin and Nystatin. Animal recovered completely after treatment with Clotrimazole therapy (1% cream topically) for 10 days. *Curvularia* spp. have been associated with allergic sinusitis infections in cattle popularly known as Helminthosporiosis in older literature (Bartynski *et al.*, 1990). Infection with the *Curvularia* spp. have caused skin infections (Gugnani *et al.*, 1990), subcutaneous tumefactions/mycetomas in horses (Boomker *et al.*, 1977), osteomyelitis in dogs (Coyle *et al.*, 1984) and central nervous infection in parrots (Clark *et al.*, 1986). The fungus is occasionally associated with allergic sinusitis (Bartynski *et al.*, 1990), keratitis and cutaneous infections such as phaeohyphomycosis (Grieshop *et al.*, 1993), onychomycosis (Barde and Singh, 1983) or mycetomas.

Acknowledgement

The authors are thankful to worthy Vice Chancellor, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, for providing the necessary facilities and support throughout the investigation.

REFERENCES

- Bartynski, J. M., T.V. McCaffrey and E. Frigas, 1990. Allergic fungal sinusitis secondary to Dematiaceous fungi-*Curvularia lunata* and *Alternaria*. *Otolaryngology*, 103: 32-39.
- Boomker, J., J. A. W. Coetzer and D. B. Scott, 1977. Black grain mycetoma (maduromycoses) in horses. *onderstepoort. J. Vet. Res.*, 44: 249-252
- Barde, A. K. and S. M. Singh, 1983. A case of Onychomycosis caused by *Curvularia lunata* (Wakker). *Boedijin. Mykosen.*, 26: 311-316
- Coyle, V., J. P. Isaacs and D. A. O'Boyle, 1984. Canine mycetoma: a case report and review of the literature. *J. Small. Anim. Pract.*, 25: 261-268.
- Clarke, F. D., L. P. Jones and B. Panigrahy, 1986. Mycetoma in a grand Eclectus (*Eclectus rotatus*) parrot. *Avian Dis.*, 30: 441-442.
- Grieshop, T. J., D. Yarbrough and W. E. Farrar, 1993. Case report: Phaeohyphomycosis due to *Curvularia lunata* involving skin and subcutaneous tissue after an explosion at a chemical plant. *Amer. J. Med. Sci.*, 305: 387-389.
- Gugnani, H. C., C. N. Okeke and A. Sivanasen, 1990. *Curvularia clavata* as an etiological agent of human skin infection. *Lett. Appl. Microbiol.*, 10: 47-49.
- Lagneau, P. E., K. Labathi, and D. Swine, 1998. Isolation of yeasts from bovine milk in Belgium. *Mycopathologia*, 135: 99
- Sivanasen, A., 1987. Graminicolous species of *Bipolaris*, *Curvularia*, *Crechslera*, *Exserohilum* and their telomorphs. Commonwealth Mycological Institute, Mycological paper 158. Kew, Surrey, England.
- Thomas, P. A., D. J. Abraham and C. M. Kalawathy, 1988. Oral itraconazole therapy for mycotic keratitis. *Mykosen.*, 31: 271-279.