

## *Exserohilum rostratum* : First Isolation from Equine Dermatitis

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### *Exserohilum rostratum*: 말의 피부염에서 최초의 분리

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초록 : 데마습科 오수생물인 *Exserohilum rostratum* 진균이 피부염에 걸린 2세의 암말 피부 병변으로부터 분리되었다. 이 암말은 다수의 작고, 인설로 덮힌 불규칙한 모양의 백회색 탈모 병변을 목과 등에 나타내었다. 감염경로는 확인되지 않았으나 *Exserohilum rostratum*은 자연 상태에서 오수생물로써 증식한다. 저자들의 지식으로써는 피부병에 걸린 어린 말에서 *Exserohilum rostratum*의 분리는 새로운 숙주를 기록하는 것이다. 다양한 동물의 질병에서 *Exserohilum rostratum*의 역할을 조사해야 될 것을 제시하였다.

### Introduction

The recent years, mycotic infections due to opportunistic fungi has increased both in medical and veterinary field<sup>11</sup>. Many reasons have been cited for high incidence of opportunistic infections<sup>10,11</sup>.

*E. rostratum*, the anamorph of *Setosphaeria rostrata* is one of the causes of phaeohyphomycosis<sup>1,2,3,4,5</sup>. We could not trace any reference documenting the involvement of a young horse affected with chronic dermatitis.

### Materials and Methods

A 2-year-old non-descript female horse which was used for draught purpose, had dermatitis for the last three months. The practising veterinarian advised topical application of tetracycline skin ointment for two weeks. When the animal failed to show any clinical response, skin scrapings collected from the lesions were submitted to the laboratory of Veterinary Public Health for the diagnosis. The specimen was subjected to direct microscopical examination in 10% KOH, and also cultured on Sabouraud dextrose agar with chloramphenicol(0.1mg/ml) and nutrient agar. The inoculated slants and plates were incubated at 25 and 37°C, respectively and examined daily for microbial growth. The

morphology of the isolate was studied in a newly discovered 'PHOL' stain<sup>9</sup>.

In addition, skin scrapings from 5 healthy horses (3 male and 2 female) were examined for the presence of *E. rostratum* by employing standard mycological techniques.

## Results

On physical examination, the mare showed multiple, small scaly, irregular, whitish-grey, alopecic lesions on the neck and temperature, pulse and respiration were in normal range. There was no evidence of pulmonary or systemic involvement. Dermatophytes and mange mite were not detected in the clinical specimens. However, infected scales from cutaneous lesions revealed the presence of few septate branched, dermatiaceous long fungal filaments. No bacterial growth was observed at 37°C. On Sabouraud medium, the colonies appeared as grey and wooly after one week of incubation at 25 and 37°C. The growth in 'PHOL' stain revealed many dermatiaceous, septate, branched fungal hyphae with sympodial conidiophores and ellipsoidal conidia. The isolate was identified as *E. rostratum*<sup>7</sup>.

*E. rostratum* could not be recovered from the skin scrapings of the 5 healthy horses.

## Discussion

*E. rostratum* is a dermatiaceous fungus which has its ecological niche in soil, plant material and other sporadic materials<sup>7,10</sup>. It is one of the cause of phaeohiphomycosis in man and occasionally in cattle<sup>11</sup>. The fungus is found to be associated with keratitis, osteomyelitis, nasal polyps, cerebrospinal fluid, sinus mass, sinusitis, and cutaneous lesions of man and very rarely lower vertebrate animals<sup>1,2,3,4,8,11</sup>. The isolation of

*E. rostratum* from the skin lesions of an Indian mare is an important observation and warrants further studies on its role as pathogen.

In phaeohiphomycosis, trauma to the skin is considered the main portal of entry of the pathogen in the body<sup>3,4,6</sup>. In the present case, the owner of the mare failed to recall any major trauma or injury to the animal. But the mare was used for draught purpose in a tonga for carrying passengers as well as heavy loads. The continuous rubbing of the leather straps on the neck and saddle area might have resulted minor trauma which probably went unnoticed by the owner. As the fungus grows as a saprophyte in nature, one can only speculate if the pathogen would have entered the skin from the saprobic reservoirs. We did not conduct any environmental investigation to establish the source of infection. The owner did not permit us to collect skin biopsy from the mare.

Presently, we can not conclusively prove the etiologic role played by *E. rostratum* in equine dermatitis. The future studies may elucidate the causative significance of this dermatiaceous fungus in various disorders of animals. As far as could be ascertained, this seems to be the first record of the association of *E. rostratum* with equine dermatitis.

## Conclusion

*Exserohilum rostratum*, a dermatiaceous saprobic fungus has been isolated from the cutaneous lesions of 2-year-old non-descript female horse with a history of dermatitis. The mare had multiple small, scaly, irregular, whitish-gray alopecic lesions over most of the neck and saddle region. The source of infection remains uncertain but *E. rostratum* grows as saprophyte in nature. To authors' knowledge, the isolation of *E. rostratum* from the dermatological disorder of a young equine constitute the new host re-

cord. It is suggested that the role of *E. rostratum* should be investigated in various animals diseases.

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