

3. Title: Study of the Dermatophytoses Indigenous to Thailand.

Principal Investigator: Robert L. Taylor, Lt. Col., MSC

Associate Investigator: Renoo Kotrajaras, M.D.
Kachorn Pranich, M.D.

Assistant Investigators: Yupin Charoenvit, B.Sc.
Malinee Thamrongnavasawasdi, B.Sc.

This study was prompted by the frequently underestimated but always major medical problems the dermatophytes present to the military in times of stress.

This project was initiated in collaboration with Dr. Renoo, dermatologist at Women's Hospital in Bangkok, in an effort to determine the relative occurrence of the various dermatophytes in this population. One morning a week, two members of this laboratory go to the dermatology clinic to obtain material from patients with a provisional diagnosis of dermatophytoses.

Late in January, a collaborative effort was established with Dr. Kachorn, dermatologist Chulalongkorn University Hospital, whereby SMRL supplies the media and the dermatology staff at Chulalongkorn prepares the cultures which are brought to our laboratory for incubation and identification.

So far, 191 cultures have been obtained from Women's Hospital and 73 from Chulalongkorn Hospital. We have isolated Trichophyton rubrum (22), Candida albicans (16), Trichophyton mentagrophytes (5), Epidermophyton floccosum (4), Microsporum gypseum (2) and Geotrichum candidum (1). Results are pending on forty cultures. Tinea versicolor, a superficial mycosis, was noted among many of the patients seen in the dermatology clinic at Women's Hospital. Several cases were confirmed by microscopic examination strengthening the impression that Tinea versicolor is a prevalent infection in Thailand. Reports from U.S. medical personnel in Central Thailand indicate Engineer troops in this area have a high incidence of Tinea versicolor. This infection does not create a military problem due to the extremely superficial nature of the disease.

Previous plans to obtain cultures from all dermatology cases, suspected of being mycoses, seen at the 31st Field Hospital, Korat, Thailand did not prove feasible due to transportation difficulties.

In January, an unusual dermatophyte was isolated from four gibbons suffering from skin lesions. Subsequently, 22 of the gibbons in the SMRL colony in Bangkok were cultured irrespective of lesions and the organism recovered from 85 per cent of the animals. Additional details of the organisms characteristics are incorporated into the report on Laboratory Animal Development.

A preliminary experiment was conducted to evaluate the efficacy of Dimethyl Sulfoxide (DMSO) as a vehicle for topical griseofulvin in the therapy of dermatophytes. Twenty-five guinea pigs (five groups of five each) were infected with Trichophyton mentagrophytes and subsequently treated to compare the three different regimens. Two control groups were included, one treated with 70% ethanol and the other with DMSO (80%). The three remaining groups received daily treatment with either oral griseofulvin, griseofulvin in 70% ethanol (topically) or griseofulvin in DMSO (topically). Results were evaluated after 7 days of treatment solely on the basis of clinical appearance of the lesions. The DMSO control group showed no change whereas lesions in the 70% ethanol group progressed. Among the griseofulvin regimens there was little change with oral drug, and there was improvement with topical drug suspended in either ethanol or DMSO. The DMSO-griseofulvin combination appeared to give the best clinical response in this limited trial.