

SUMMARY

Cell mediated immune responses are now recognized as an essential component of the host defense mechanism against dermatophyte infections. A relationship between lowered cell mediated immunity and chronic dermatophyte infection in an individual is now well established.

This study was initiated to determine the part played by cell mediated immunity in patients with dermatophyte infections.

Three groups of individuals were studied. A "control" group of 15 who had no fungal infections, an "acute" group of 15 identified as having dermatophyte infections for less than six months and a "chronic" group of 15 individuals having dermatophyte infections of over six months.

The acute and chronic patient groups had the dermatophytes identified by the standard method of culture.

To determine the cell mediated immunological status of all 45 individuals the total and differential white cell counts, E-rosette formation, skin testing for delayed type hypersensitivity and an absolute CD⁴ counts were performed.

Trichophyton rubrum, the commonest dermatophyte isolated in the mycology laboratories and which caused chronic infections, was isolated in all the patients who had dermatophyte infections of more than six months duration.

The absolute CD4 cell count was low in the chronically infected group. The CD4 T lymphocyte is identified as the important cell in eradicating dermatophyte fungi and the tendency to be low in the chronically infected group shows its role in the persistence of the infection in this group.

The E-rosettes are formed by all T-lymphocytes with CD2 markers. In the group of patients with chronic dermatophyte infections the ability to form E-rosettes was significantly lower than in the control group. A low T - lymphocyte count in turn lowers the cell mediated immunity leading to persistence of the infection in the chronically infected patients.

A positive skin test read after 72 hours indicates an active cell mediated immune system. In this study the chronically infected group showed a higher rate of tuberculin negativity indicating a lowered cell mediated immunity, giving rise to a persistence of the infection.

These findings suggest that the patients who had chronic dermatophyte infections were having lowered cell mediated immunity which is consistant with the findings of previous studies.

Trichopyton skin testing reagent could not be obtained for this project.