CHLOROPHYLL IN THE TREATMENT OF ATHLETE'S FOOT*

FRANCES C. FOSTER AND WILLIAM C. GRATER

University of Illinois, Urbana, Illinois

Recently, in the field of chemotherapy, chlorophyll has been used experimentally in the treatment of infections, particularly in acute or chronic local suppurative lesions. Dr. Benjamin Gruskin, Director of Experimental Pathology at Temple University, suggests the theoretical explanation that the action of chlorophyll consists for the most part of increasing the resistance of cells in some physicochemical manner so that enzymatic digestion of the cell membrane by invading bacteria or their toxins is checked; and that the bacteria are inhibited from forming toxic compounds. Dr. Gruskins' success in treating various dermatological infections, including one case of Actinomycosis, suggested the possibility of successful treatment of athlete's foot caused by a fungus of the Genus Trichophyton.

Oil soluble chlorophyll in a lanolin base, and also in a liquid solvent, was used in the treatment of cases in the present study. Volunteer patients were brought to the laboratory and their feet examined, particular attention being paid to scales, pustules, open lesions and breaks in the skin. Cultures of skin scrapings and pus were made on plain agar, Sabouraud's maltose agar with and without tellurite, and a hanging drop preparation containing maltose, peptone and water. The medium containing tellurite was efficient in inhibiting the growth of certain bacteria found on the feet, so was satisfactory for the isolation of the fungi, on which it had no appreciable effect. The cultures were incubated at room temperature and Trichophyton isolated when possible. Check cultures were made in 2-3 days, and final cultures were taken after treatment had been followed for at least two weeks.

Treatment consisted of rubbing or swabbing the chlorophyll material thoroughly into and around the lesions. Each person was instructed to apply treatment once daily, and regularity in treatment was emphasized. Thirty-one cases were treated, but only one case could be reported as cured. The chlorophyll treatment, however, had some beneficial effect. There was some evidence of better results when Trichophyton was not isolated as the cause of the infection, and little or no improvement was noted in acute cases where the fungi were definitely isolated. Neither the liquid nor the ointment showed any fungistatic power with tests carried out, a fact which seem to indicate, also that chlorophyll has no fungicidal power. This is in line with Dr. Gruskin's theory that chlorophyll increases the resistance of the cell.

In conclusion, the present experiment indicated that chlorophyll is of value in preventing cracks and itching in the interdigital spaces, but that it seldom, if ever, cures athlete's foot. Better results might be obtained if the treatment could be carefully controlled.

* Contribution from the Collegiate Section.