

AN ORAL ANTIBIOTIC FOR THE TREATMENT OF RINGWORM

The ringworm infections are among the commonest skin diseases encountered in general and in dermatological practice. Most cases heal fairly rapidly, but some are recalcitrant and a few virtually incurable with the remedies hitherto available. The trichophyta, microspora and epidermophyta which cause ringworm in man live and multiply in the keratin of the epidermis, and sometimes in that of the nails and hair, and nourish themselves therefrom by virtue of their possession of a keratolytic enzyme. The duration of a ringworm infection is indirectly proportionate to the amount of inflammatory reaction that it arouses and is relatively little influenced by topical treatment because no satisfactory keratolytic and fungicidal agent has yet been developed. Infections by zoophilic fungi are usually inflammatory and relatively short-lived while anthropophilic fungi cause little reaction and are often chronic and sometimes completely intractable, the fungi behaving as saprophytes rather than as parasites and living a restful and safe existence behind the keratin barrier. Chronic ringworm infections may not be dangerous but they cause distressing and ugly lesions.

It was predicted that the ideal fungicide would be one which, administered internally, would endow the cells destined to produce keratin with the power to resist fungi, this power persisting as they become keratinized.¹ Preliminary studies indicate that griseofulvin may be just such a fungicide.

Griseofulvin, which was isolated by Oxford, Raistrick and Simonet² in 1939, as a metabolic product of *Penicillium griseofulvum* Dierckx, was first thought to be of only academic interest, but later work showed that it was active against a wide range of fungal pathogens affecting plants, and a method of large-scale production was developed with a view to its use in horticulture. Finally, it was found that griseofulvin was active *in vitro* against the ringworm fungi and that, given by mouth, it controlled certain trichophyton and microsporum infections in laboratory and domestic animals. The antibiotic was released for clinical trial in humans after experiments had shown that laboratory animals tolerated relatively large doses over long periods without ill effects.

The first reports by Williams *et al.*³ from England, and Blank and Roth⁴ from America on the treatment of a number of notoriously intractable kinds of ringworm describe

spectacular results. *T. rubrum* infections of the skin and nails, which are at best ameliorated by standard methods, respond in an astonishingly short time; skin lesions often begin to improve in a few days and healthy-looking nail appears within a few weeks of starting griseofulvin treatment. Scalp and hair infections caused by a variety of fungal infections are equally responsive. Griseofulvin appears to be as effective in infections that have been present for decades as in the most recent cases.

These observations have been confirmed by the treatment of a small series of patients suffering from chronic ringworm infections.* In one case of *T. rubrum* infection of seventeen years' duration psoriasiform lesions of the skin began to subside within a few days and had disappeared three weeks from the start of treatment, at which time normal-looking nails were growing. The hair in a case of black-dot scalp ringworm due to *T. violaceum* infection began to grow within three weeks and showed no microscopical evidence of infection at six weeks. Other trichophyton and microsporum infections are responding equally well.

Both clinical and experimental observations indicate that all the keratolytic ringworm fungi will prove susceptible to griseofulvin, but that other fungal pathogens affecting man are unlikely to be affected. Other antifungal antibiotics such as nystatin (Mycostatin) and amphotericin B (Fungizone) are, however, already proving effective in different ranges and further developments are expected.

Griseofulvin is administered orally and appears to cause few toxic reactions and none of importance in the dosage required to treat ringworm infections. Its mode of action is still uncertain; in the concentration obtained in human tissue it is probably fungistatic rather than fungicidal. Optimum dosage levels and duration of treatment have still to be established, and it is too soon to say whether the effects will be lasting in all cases.

If griseofulvin fulfils its early promise, the whole concept of the treatment of chronic ringworm infections is likely to change. In the meantime it offers fascinating prospects for experiment.

* Grisovin (griseofulvin) was supplied by Glaxo Laboratories S.A. (Pty.) Ltd.

1. Wilson, J. W. (1955): In *Therapy of Fungus Diseases*. Boston: Little Brown and Co.
 2. Oxford, A. E., Raistrick, H. and Simonet, P. (1939): *Biochem. J.*, 33, 240.
 3. Williams, D. L., Marten, R. H. and Sarkany, I. (1958): *Lancet*, 2, 1212.
 4. Blank, H. and Roth, F. J. (1959): *Arch. Derm. (Chicago)*: 79, 259.

PADVEILIGHEID

Die ernstige en ingrypende geneeskundige, maatskaplike en algemeen-menslike implikasies van die heersende onbevredigende verkeerstoestande in ons land is gedurende die afgelope tyd allerweë beklemtoon in die algemene pers

sowel as in die mediese pers. In sy onlangse afskeidsrede as President van die Tak Noord-Transvaal van die Mediese Vereniging van Suid-Afrika het dr. J. G. du Toit,¹ byvoorbeeld, 'n ongedempte soeklig gewerp op die siekte van

padongelukke. Elders in hierdie uitgawe van die *Tydskrif* plaas ons 'n bydrae van dr. G. T. du Toit—'n brief waarin hy aantoon watter praktiese maatreëls daar hier en elders in die wêreld gedoen word om die verkeer veiliger te maak, en waarin hy voorbeelde van sulke maatreëls, soos die gebruik van veiligheidsgordels in motors, ens. bespreek.

Dit is nie ons doel om hier weer op die statistiese besonderhede van padongelukke in ons land in te gaan nie. Diegene wat in dié besonderhede belangstel, sal hulle vind in die artikel van dr. du Toit waarna ons so pas verwys het, sowel as in die talle algemene geskrifte wat gereeld in die dagbladders verskyn en in die rekords van die Nasionale Padveiligheidsorganisasie wat reeds al sedert 1949 onmisbare dienste op hierdie gebied gelewer het. Wat ons egter wel wil doen is om die algemene beginsels van 'n breë frontaanslag op hierdie probleem te omskryf en te beklemtoon.

1. In die eerste plek sou ons wil sê dat die probleem so 'n groot omvang aangeneem het dat slegs optrede op 'n omvattende nasionale grondslag 'n belofte van sukses kan inhou. Daar behoort 'n sentrale beplanningsraad te wees bestaande uit verteenwoordigers van die regering op die hoogste vlak en aangevul deur lede van die sentrale en plaaslike vervoerdepartemente, lede van die Nasionale Padveiligheidsraad, lede van die mediese professie en verteenwoordigers van die algemene publiek.

Die beginselsake waaroor hierdie sentrale beplanningsraad moet besluit, sal onder andere insluit die probleme van stads- en straataanleg en die bou van paaie; verkeersmaatreëls soos snelheidsbeperkings op alle soorte voertuie insluitende gewone en kragaangedrewe fietse, motorfietse, bromponies, ligte en swaar motors (veral die groot moderne motors wat talle kere meer perdekrag ontwikkel as wat enige motorbestuurder ooit nodig het), en vragmotors en busse; die skepping van 'n nasionale verkeersbeamptekorps

wat op die hoofpaaie dwarsoor die land kan optree ter aanvulling van dienste van plaaslike verkeersbeamptes; die standaardisering van die vereistes van registrasie en herregistrasie van alle motorbestuurders; die uitwerk en invoer van omvattende skemas van skool- en naskoolse opvoeding op hierdie gebied; volgehoue verbeeldingsryke reklame; en stelselmatige navorsing oor al die belangrike menslike en tegniese fasette van die vraagstuk van padveiligheid.

2. In die tweede plek sou ons wou sê dat optrede op die individuele vlak net so belangrik is as optrede op die nasionale vlak. Dit sou ons tot skadelike en gevaarlike valse gerustheid sus as ons dink dat 'n sentrale padveiligheidsraad ons as persone van alle verantwoordelikheid onthef. Trouens, die verantwoordelikhedsin en die gewete van elke persoon bly op hierdie gebied, soos op alle ander gebiede, nog altyd ons sterkste waarborg van die voortbestaan van 'n veilige en menswaardige lewenswyse.

Onder die aspekte van hierdie probleem wat binne die bestek van persoonlike verantwoordelikheid val, sou ons kon noem: die gedurige aankweek en wakker hou van 'n 'sosiale en padgewete'—as voetgangers teenoor bestuurders van voertuie en as voertuigbestuurders teenoor medepassasiers en voetgangers; hoffikheid en welwillendheid; 'n besef van die gevare van die gebruik van sterke drank deur persone wat moet bestuur, van spoed en van die baie vorms van kinderagtige pronk- en selfgeldingsbestuur wat so dikwels noodlottig eindig.

As verantwoordelike en beskaafde mense moet ons leer om, soos op alle ander gebiede van die maatskaplike lewe, ook op die gebied van ons ingewikkelde moderne verkeerstelsel as individue en groepe en organisasies saam te span met die doel om ons weg deur die wêreld so versigtig en veilig as moontlike te baan.

1. du Toit, J. G. (1959): S. Afr. T. Geneesk., 33, 296.

LEDERLE CARDIAC SYMPOSIUM

We are publishing in this number of the *Journal* summaries of papers delivered at the Lederle Cardiac Symposium held in Johannesburg in July 1958.

The Southern African Cardiac Society approached Messrs. Lederle Laboratories with the suggestion that a grant be given to finance this symposium. This firm readily agreed, and a very successful conference was held, attended by over 70 physicians, thoracic surgeons, and research workers from all over the Union of South Africa and Rhodesia. Most of the money was spent on subsidizing travel fares of delegates from Rhodesia, the Cape Province, and Natal.

Both the Southern African Cardiac Society and Messrs.

Lederle Laboratories are to be congratulated on the initiative shown in this matter. This meeting is one of the many examples of happy cooperation between scientific societies and pharmaceutical firms in the promotion of research in this and other countries. The symposium is to be reprinted in booklet form and sent to interested physicians all over the world.

It is hoped that sufficient funds will be available to invite cardiologists from abroad to attend the next symposium and so stimulate interest and exchange of ideas among physicians interested in cardiology.

The papers printed in this number bear testimony to the high standard of cardiology attained in South Africa.