

Dermatology for Nurses

By

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Common Fungus Affections

Fungi are minute vegetable plants which grow on the skin. The confusing name of ringworm is often given to them; this is misleading because of the fact that ringed lesions are not always present and the causative fungus is not worm-like. So we see an example of absurd nomenclature. Tinea fungi are pathogenic both to human beings and animals; the former can pick up the infection from infected cattle, dogs, cats, etc. Fungus affections are transmissible diseases and proper precautions are necessary in their contact.

Monilia :

A harmless fungus by nature; only under unfavourable conditions like moisture, warmth, debility and diabetes does it become pathogenic. In adults, it produces infection of posterior nail folds (paronychia) interdigital spaces, toes and body folds. Paronychia is

seen as swollen posterior nail fold, and in folds in the hands of housewives, bar attendants and cooks whose hands are constantly in water. In the body folds and interdigital spaces, monilia produces chronic, moist red areas with white macerated skin.

In infants, monilia produces thrush in the mouth and eruption in the napkin area. All these conditions are treated with aqueous Gentian Violet 1-3%. Underlying predisposing causes should be corrected in chronic cases, for which the help of a skin physician should be obtained.

Fungus Infection of the Scalp.

It is not as common in India as it is in Western countries. Only children are affected since after puberty the infecting fungus cannot survive as the human scalp produces protective fatty acids. The latter have been used pharmacologically to treat fungus affections in clinical practice. Only rarely is the adult scalp affected; here usually the cause is Favus—Fungus (from the mouse) which produces yellowish cup-like masses with a mousy odour. Children contract infection from human beings and such animals as cats, dogs, and cattle. It is more frequent in boys than girls for the reasons that the boys have shorter hair, visit barbers more often and also play about with each others' caps. The fungus grows in the corny layer of the epidermis, entering the hair follicles and, after penetrating the hair, grows within it. Consequently hair weakens and breaks. The clinically salient features are: a circular patch or patches of partial loss of hair, thin greyish scales, and broken lustreless stumps of hair. Underwood's Light shows up a greenish fluorescence of the patch



Ringworm on the back of an adult male. Border is well-defined and inflammatory. Case cleared up with Lotio Gentian Violet and Dermiquinol.

and the infected hairs wherever they are. The lamp is very useful in picking up infected cases particularly in mass examinations of children in schools. Scrapings from the scalp and hair show fungus on microscopic examination. The scaly variety is the commonest type of scalp ringworm. At times one sees the kerion variety in which painless boggy swellings are produced along with patches of incomplete baldness.

An attempt should be made to trace the source of infection. Treatment is not easy since the fungus invades the hair follicles and fungicidal agents do not penetrate so deeply. Essentially for this reason epilation is an important component of treatment except in children under 2 years of age where hair follicles are shallow.

Lately new fungicides like phenyl mercuric nitrate and salicylanilide have been tried with success without having to resort to epilation. There are two methods of epilation: X-ray and thallium acetate. They are very exact methods concerning the Dermatologist rather than the nurse or even the general practitioner. Hairs fall out 15 to 20 days later. Hairs are clipped and then epilated. Before regrowth begins, the fungus may be killed with fungicidal agents. Parents should be instructed to keep a paper or linen cap on the child's head day and night, to wash the scalp every morning with soap and hot water, and then rub the ointment well into the scalp. The ointment usually prescribed is one containing of Sulphur, 4% or hydrag, ammoniated mercury 10% in an emulsifying base. The prognosis is fair in good hands. No scarring and baldness are left behind except in the kerion variety and favus.

In the beard region, scaly patches with dull broken hair with an inflammatory border or boggy swollen kerion is come across. Farm workers are the ones commonly affected.

Diagnosis is settled by microscopic examination of the scraping. Staphylococcal folliculitis should be eliminated in differential diagnosis. Treatment is with fungicidal agents (discussed later on).

Ringworm of the Body.

It is a condition frequently come across in practice. Exposed areas are the ones commonly affected. Clinical features are typical. Marked itching is a characteristic symptom. There may be one to several circular lesions with sharp demarcation. Affected area or areas show vesicles, pustules and scaling. Inflammation in the form of vesicles and pustules is not marked at the periphery of lesions. The disease is usually chronic; in this country we often see it as an extension of ringworm of the groins (Dhobi's Itch). Infection is conveyed by direct contact, less frequently by clothing and lavatory seats etc. A demonstration of fungus under the microscope clinches the diagnosis.

Tinea of Feet and Hands.

This is very common in tropical and subtropical countries; more prevalent



Tinea pedis with eczematization.

in summer. Infection is conveyed from one individual to another through bath mats, tubs and swimming pools. Europeans are very sensitive to it; they pick up the infection quickly and suffer from it more severely than the local population. The fungus grows in the warm and moist areas; for this reason the fourth interdigital spaces of feet are selectively affected. Here it is seen as a sodden white membrane covering red glazed fissured skin. There are no symptoms except slight itching. From the 4th interdigital space the disease may spread to adjoining toes, the soles of feet, and even to the dorsum of the feet. At times, it takes on an acute form with the development of vesicles, and even bullae accompanied by intense itching and burning. Auto-sensitisation produces an ide eruption on the soles of feet and palms of hands. Tinea of the feet is the commonest source of infection of ringworm of the groin. Ringworm of the nails is the second common source. The use of strong chemicals or sensitisers complicates tinea and can produce eczematization.

The outlook to complete cure of ringworm of the body, groins, hands and feet is fair in efficient hands, and co-operative patients. Acute stages must be treated like acute eczemas with potassium permanganate soaks, and Silver Nitrate or Gentian Violet applications. Only when the acute inflammation has subsided should active fungicidal agents be introduced. Those more commonly employed are: Whitfield's Ointment, Tinct. Merthiolate, Castellani's Paint and undecylenic acid ointment. All these are safe medicaments. I recommend the application of ointments in the morning and tincture or paint in the evening. The spirit in the tincture and paint harden the skin against

future infections; ointment reduces the irritation. Shoes, socks, and clothing must be sterilized. The last two are sterilized by boiling; the shoes by formalin vapours; pure formalin is put into an open glass dish in a box containing the shoes and left for at least 48 hours. Leather is not harmed by formalin vapours. Persons with ringworm of the feet should avoid walking bare-footed; otherwise there is always the danger of them infecting others. Fungicidal dusting powders are useful in the prevention of ringworm of feet and groins by keeping the parts dry and discouraging the growth of fungus. Fractional X-ray therapy is a useful standby in curing chronic cases.

Ringworm of the Nails.

One or several nails may be involved, rarely all of them. The fungus first attacks the free edge of the nail and in time the whole of the nail is defaced. The nail becomes opaque, brittle and deformed, with debris under the free edge. Treatment concerns the Dermatologist.

It must be recognised that fungus infections are very common in India and other tropical and subtropical countries. They are easy to detect and control with the prophylactic and curative treatment. Mild fungicidal agents are the only ones recommended for use. It is a pity that these common infections are missed and often carelessly treated by nurses and doctors alike, with the obvious outcome that human misery is prolonged unnecessarily. I sincerely trust that with the information given here nurses in the field will be alerted to their responsibilities and appreciate their role in this direction.

(To be continued)