Study of onychomycosis

Sir,

Onychomycosis is one of the commonest nail disorders seen by dermatologists. It describes all fungal infections of the nails and is caused by dermatophytes, yeasts or nondermatophyte moulds.

We undertook this microbiological study of onychomycosis with the aim of determining the prevalence of the various causative agents of onychomycosis in our population. From Jan 1999 to Dec 2001, nail clippings or scrapings were collected from 100 patients clinically suspected of having onychomycosis. They were processed in the Department of Microbiology, Bowring and L. C. Hospital, Bangalore and were studied for the presence of fungi. The nail clippings or scrapings were incubated in 40% potassium hydroxide for 30 minutes and microscopic examination was done for the presence of fungal elements. Culture was done on Sabouraud’s dextrose agar. The isolates were identified by standard techniques. The criteria used to report the moulds as pathogens were direct microscopy positive and isolation of the same fungi in three consecutive samples at intervals of 7 days.

Among the 100 patients, 51 were males and 49 were females. The mean age of the study group was 32.22 (±17.64 SD) years. Table 1 shows the sex distribution and the nails involved. Toe nail infection (78.43%) was commoner in males, while finger nail infection was commoner in females (85.71%) as most affected females were housewives who immersed their hands frequently in water. Two of the male patients with toe nail onychomycosis had HIV infection and three had diabetes mellitus.

Thirty per cent of samples were positive by KOH smears and 40% by culture (Table 2). Out of 40 culture positive samples, one yielded a mixed growth of two fungi. Yeasts predominated (48.78%), followed by dermatophytes (39.02%) and moulds (12.19%). Candida species (90.47%) predominated among yeasts. C. albicans (52.32%) was the commonest species isolated followed by C. tropicalis (37.22%). Trichosporon beigelii (4.76%) and Geotrichum candidum (4.76%) were isolated in one case each. Trichophyton rubrum (68.75%) was the commonest dermatophyte followed by T. mentagrophytes (25%) and Epidermophyton floccosum (6.25%). Fusarium oxysporum, which was isolated from the toe nails of HIV patients in the present study, has been reported as a cause by Jesudanam et al. Curvularia, which was isolated from toe nails of a diabetic patient, has been reported as a cause by Ramani et al. Alternaria and Cephalosporium as causative agents of onychomycosis has been reported by Sehgal et al.

To conclude, Candida species were the most common causes of onychomycosis in the present study. The present study shows that nondermatophyte moulds and yeasts can invade the nail and cause onychomycosis.

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Table 1: Sex distribution and nail involvement in the study group

<table>
<thead>
<tr>
<th>Sex</th>
<th>No.</th>
<th>Toe nails</th>
<th>Finger nails</th>
<th>Both finger nails and toe nails</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>51</td>
<td>40</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Female</td>
<td>49</td>
<td>6</td>
<td>42</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>46</td>
<td>50</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2: Comparison of direct microscopy with culture

<table>
<thead>
<tr>
<th>KOH positive (n = 30)</th>
<th>KOH negative (n = 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture positive</td>
<td>Culture negative</td>
</tr>
<tr>
<td>Culture positive</td>
<td>Culture negative</td>
</tr>
<tr>
<td>24</td>
<td>6</td>
</tr>
<tr>
<td>16</td>
<td>54</td>
</tr>
</tbody>
</table>
Letters to Editor

REFERENCES


**Silver sulphadiazine for MRSA Infections**

Sir,

In response to the article on methicillin resistant *Staphylococcus* (MRSA), no account will be complete without a mention of a medication which has been in use for the last 30 years, and which has saved more lives than all the other topical preparations put together - silver sulphadiazine cream. Although primarily used in burns, it has been used in herpes zoster and in toxic epidermolysis. It is useful in multi-drug resistant bacteria along the entire spectrum, from MRSA to *Pseudomonas aerogenes*. As compared to mupirocin, silver sulphadiazine cream has the following advantages:

1. It is very inexpensive.
2. While mupirocin comes in a 10 gram tube, silver sulphadiazine is also available in a 1 kilogram jar.
3. Mupirocin is available in a greasy ointment base while silver sulphadiazine comes in a water washable base.
4. Silver sulphadiazine is used both for treatment and prevention.

A combination of silver sulphadiazine and chlorhexidine, available in several brand names in India is more potent than silver sulphadiazine alone.

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