Incidence of an experimental infection with Keratinomyces ajelloi and Microsporum nanum in laboratory animals

M. Refai*, A. Ali and I.S. Abdallah**

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Hair samples were collected from different parts of the body of rabbits, g. pigs, rats and mice, and cultured on Kimmig agar with actidione. The animals were apparently healthy.

The most commonly isolated fungus was Scopulariopsis, then followed by Keratinomyces ajelloi, Microsporum nanum, Hormodendrum and lastly Trichophyton mentagrophytes. which was only once isolated. (see Table 1).

Table 1. Fungi isolated from apparently healthy lab. animals

<table>
<thead>
<tr>
<th>Animals</th>
<th>No.</th>
<th>Scopulariopsis</th>
<th>Hormodendrum</th>
<th>K. ajelloi</th>
<th>M. nanum</th>
<th>T. ment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rabbits</td>
<td>265</td>
<td>123</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>G. pigs</td>
<td>242</td>
<td>23</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Mice</td>
<td>250</td>
<td>78</td>
<td>-</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Rats</td>
<td>237</td>
<td>27</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Experimental infection

Keratinomyces ajelloi and Microsporum nanum were used for experimental infection of laboratory animals. With each type, 10 rats, 10 mice, 2 rabbits and 2 hens were infected. Half the animals were previously shaved and scarified. 7 days old cultures were applied to the back of the animals. The animals were then examined daily for one month.

Results

All rabbits showed loss of hairs and inflammation of the infected areas of the skin. However, the lesions disappeared after one month without treatment. Only mice and rats, which were previously shaved and scarified, showed clinical symptoms. The lesions were small, scattered, first red then covered with fine white scales. In these animals self-healing of the lesions was noticed.

On the comb of hens appeared small white spots on the 3rd day. The lesions involved then the whole comb and persisted for longer than one month. The infection was more inflammatory in case of Microsporum nanum, but more localized.

It is interesting to isolate Keratinomyces ajelloi and Microsporum nanum from laboratory ani-

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mals, although both fungi could not be isolated by us till now from the soil in Egypt. Keratinomyces ajelloi was reported by Refai and Ali (1970) to cause skin lesions in man. In man as well as in laboratory animals experimentally infected with these geophilic dermatophytes, the lesions were small, scaly and healed without treatment in one to two months.

Summary

265 rabbits, 242 g.pigs, 250 mice and 237 rats, apparently healthy were examined for dermatophytes. Scopulariopsis brevicaulis was the most commonly isolated fungus, then followed by Keratinomyces ajelloi (16 times) and Microsporum nanum (4 times). Hormodendrum was isolated 3 times and Trichophyton mentagrophytes was isolated once. Experimental infection of rabbits, rats, mice and hens with Keratinomyces ajelloi and Microsporum nanum caused clinical symptoms. However, the lesions disappeared without treatment.

References

Foto 1. Keratinomyces ajelloi one week old on Kimmig agar

Foto 2. Microsporum nanum, 10 days old on Kimmig agar

Foto 3. Lesions on the back of a mouse caused by M. nanum

Foto 4. Lesions on the comb caused by M. nanum

Foto 5. Lesions on the comb caused by K. ajelloi

Foto 6. Lesions on the comb caused by Trichophyton gallinae