Incidence of scabies and scabies-related acute glomerulonephritis in malnourished children

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Summary
A retrospective study was done on 7,666 patients, who reported at the paediatric Outpatient department of Gogon-Rowshon & Solaimon-Halima (GR&SH) Medical Centre, Lohajang, Munshiganj from May 2000 to April 2001. Among them 643 patients (age-0-15 years) were clinically diagnosed as suffering from scabies. Most of these children (90%) were malnourished (low weight-for-age). Of them, 30 patients (4.6%) developed Acute Glomerulonephritis (AGN). Three hundred and forty scabies patients were treated with Monosulfiram lotion for 3 consecutive days. The recovery rate was 42%. Those who did not recover were again treated for another 3 consecutive days with the same lotion after 1 week interval. This time the cure rate was 99%.

Introduction
Scabies is a common skin disease all over the world. It is a contagious disease of public nuisance character, caused by a parasitic mite called Sarcoptes scabie. Intimate contact with infected individual or their ciothings, malnutrition, low socio economic condition, over crowding, poor hygiene, lack of knowledge are the main predisposing factors. Children below 15 years of age, who constitute 50% of our population, are the worst sufferers. Acute Glomerulonephritis (AGN) may develop in 5% cases from streptococca-infection1. It has been observed that better socio-economic condition, with better hygienic living affect less percentage of children2. So awareness of people about this is important.

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treatment. The present paper describes the incidence of scabies and scabies-related AGN in children aged 0-15 years in a rural set-up and the response of the patients to treatment with anti-scabies drug Monosulfiram.

The patients were treated with Monosulfiram, Benzyl Benzoate lotion, and Permethrin. Among these, Monosulfiram lotion was found most effective when applied for three consecutive days. Those who did not recover were asked to apply the lotion again for another three consecutive days after an interval of 7 days. In addition, the patients were asked to take scrub hot soap bath and disinfect their clothings.

Table 1 shows the response of the randomly selected 340 scabies patients to treatment with Monosulfiram. It was found that after local application of the lotion for 3 consecutive days, 145 (42.6%) patients got completely cured. The remaining 195 patients were asked to use the lotion again for another 3 consecutive days after one week interval. After these 3 days, 193 patients (99%) got cured completely (Table 1).

**Table 1: Treatment of patients with Monosulfiram**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Total no. Patients</th>
<th>Complete care</th>
<th>Percentage of success</th>
<th>Treatment failure</th>
<th>Percentage of failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>First three consecutive days</td>
<td>340</td>
<td>145</td>
<td>42.6%</td>
<td>195</td>
<td>57.4%</td>
</tr>
<tr>
<td>Second three consecutive days after one week interval</td>
<td>195</td>
<td>193</td>
<td>99%</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Fig. 2. Age wise distribution of percentage of patients suffering from scabies and percentage of patients from Acute Glomerulonephritis.

**Results**

Fig. 1 shows the month-wise attendance of total patients in the OPD of the GR & SH Medical Centre, Lohajang, Munshiganj over a period of 12 months from May 2000 to April 2001. It can be seen that the number of patients attending the hospital was lowest during the months of December and January, while the percentage of children reporting with scabies was the lowest during the months of February (5%), March (6.9%) and April (6%) (The average percentage during the whole year was over 10%) (Fig. 1). The winter months are thus the best for health and the early summer months are best for scabies.

Of the 643 patients detected as suffering from scabies, 428 (66%) were aged 0-5 years, 143 (22%) were aged 6-10 years and the remaining 72 (11%) were aged 11-15 years (Fig. 2). This clearly shows that younger children suffer more from scabies than older ones. On the contrary, percentage of children developing AGN was 1% in the age group 0-5 years, 11.2% in the age group 6-10 years and 13.9% in the age group 11-15 years, indicating that incidence of AGN increases as the children grow older.

**Discussion**

The present study shows that scabies is a big health problem for children, particularly those aged 0-5 years. The study was carried out on malnourished children coming from rural areas. The high incidence of scabies among young children indicates the very poor hygienic condition in which they are raised. People should be made aware of this to fight against scabies.

One dreadful complication of scabies is Acute Glomerulonephritis (AGN) due to Streptococcal attack. More than 4% of the scabies children develop AGN. However, the incidence of AGN was lower in younger children (0-5 years) compared to older ones (6-10 years and 11-15 years). Why this so happens is not clear and this should be investigated further.

One good thing is that scabies is completely curable by drugs like Monosulfiram, best results being obtained with application for 3 consecutive days followed by another 3 days application after a break of one week.
Conclusion
The present study shows that scabies is still a major health problem of young children. Poor hygienic living condition and malnutrition are the predisposing factors. People should be aware of these and the children should be given nutritious foods as far as possible. Scabies should be treated immediately after it is detected to avoid complications like acute glomerulonephritis which may be dangerous if not treated in time.

References