VARICELLA AND CHILDREN AT KINDERGARTENS IN LISBON

INTRODUCTION AND STUDY DESIGN

Varicella (also known as chickenpox) is one of the most common infectious diseases in childhood, caused by primary infection with Varicella-Zoster virus (VZV) (1). Usually a mild disease in healthy children can cause complications in both healthy and immunocompromised hosts (2). Latent infection of VZV always established during chickenpox can be reactivated causing cutaneous lesions known as herpes zoster or shingles. Herpes zoster is more severe compared with chickenpox, mainly due to the high incidence of the most common complication, known as postherpetic neuralgia (PHN) (3).

In 1970, in Japan, was developed the first live attenuated vaccine against varicella (Oka strain). The varicella vaccine remains the only vaccine in use against a Herpesvirus, (4, 5). In Europe the varicella vaccine is used in childhood immunisation programmes in Germany (6), Greece, Finland and parts of Italy and Spain (7) In Portugal, the varicella vaccine is available since October 2004 but has not been included in the national vaccination programme.

In Portugal, the seroprevalence of VZV is high (88.6%) and increases sharply with age from 41.3% in 2-3 years old to 60.0% in 4-6 years and 6-7 years (8). However the VZV seroprevalence in children under 2 years of age and the frequency of complications were unknown in Portugal (8).

Based on the pathognomonic features of chickenpox, a cross-sectional study was designed, using a random sample of the children population at kindergartens in Lisbon 2006. The information was obtained inquired children’s parents through self-completion questionnaire. The sample size was estimated based that varicella prevalence in children ≈ 2 years old was 20%. The varicella national seroprevalence was, in 2002, 40% in age group 2-3 years (8.9)

AIMS

The present work aims to estimate the proportion of children less than 2 years old that had varicella, the mean duration of the disease, the proportion of children who took medication and had varicella complications. Analyse the parent’s knowledge/opinion about the varicella vaccine and benefit of vaccination.

MATERIAL AND METHODS

In this study, 1229 questionnaires, applied to family units, were collected. However, only the information on 852 families, who definitely stated that they had not vaccinated their children against varicella, were analysed, corresponding to 1333 children, Varicella occurred in 559 children (table 1). The number of days that children stay at home during the disease ranged from 1 to 67 days, with a mean and a median of 10 days.

Table 1. Distribution of the occurrence of varicella in unvaccinated children

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Yes</th>
<th>No</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>58</td>
<td>15</td>
<td>73</td>
</tr>
<tr>
<td>1-3</td>
<td>193</td>
<td>27</td>
<td>220</td>
</tr>
<tr>
<td>3-6</td>
<td>136</td>
<td>29</td>
<td>165</td>
</tr>
<tr>
<td>6-9</td>
<td>66</td>
<td>10</td>
<td>76</td>
</tr>
<tr>
<td>9-12</td>
<td>55</td>
<td>9</td>
<td>64</td>
</tr>
<tr>
<td>Total</td>
<td>382</td>
<td>66</td>
<td>448</td>
</tr>
</tbody>
</table>

Table 2. Distribution of children with varicella by age group

The average age of children at onset of varicella was 2.6 years with a median of 2 years. The distribution by age group can be seen at table 2.

Fever occurred in 407 children with varicella; 515 were attended by a health care professional, and stayed at home during the illness. 519 received medication (table 3) and 20 were hospitalized due to varicella complications.

Table 3. Distribution of children with varicella who developed fever, were assisted by a doctor, stayed home, took drugs and its type

CONCLUSION

The results show that in non vaccinated children attending kindergartens, varicella occurs very early. Varicella was associated with significant morbidity, with a median duration of 10 days, complication occurred in 3.6% with 55% of hospitalizations in children with less than 3 years. More than 90% of the children had been seen by a doctor, 92% received medication.

The parent’s positive opinion about the benefit of vaccination is high. The vaccination of children against varicella depends on mother’s age and knowledge /education level (with primary level of school). Families with young mothers or mothers with primary education level seem not willing to vacinate their child against varicella.

As in other countries, varicella seems to have a significant economic impact in society due to medical visits, medication, hospitalizations and parents’ absenteeism from work (10, 11). The universal administration of varicella vaccine presents some uncertainties especially on the incidence of zoster, later in life (12, 13). Nevertheless, only the universal immunization can reduce the burden of the disease (14). The introduction of varicella vaccine into the Portuguese immunization programme could depend more of the varicella burden to society than on the severity of disease.

REFERENCES

[References are not visible in the image.]