Follow-up of Gambian 9-valent pneumococcal conjugate vaccine trial participants who experienced acute lower respiratory infection aged less than 2.5 years

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Background: The long-term outcome following ALRI at a young age is poorly described. Hypothesizing that ALRI with X-ray diagnosed pneumonia is associated with worse outcome, we described the mortality experience until 6 years of age of a sample of participants in a pneumococcal vaccine trial.

Methods: Trial follow-up ended at age 2.5 years. We followed 3920 trial survivors. Five groups were defined by exposures during the trial: 1. Severe ALRI with X-ray endpoint consolidation (SALRI-EPC), 2. Severe ALRI without EPC (SALRI-no EPC), 3. Mild ALRI with EPC (MALRI-EPC), 4. Mild ALRI without EPC (MALRI-no EPC), and 5. Controls without ALRI or admission. We calculated incidence proportion of mortality from trial end until follow-up.

Results: In 2008-9, 3367 (85.9%) participants were traced. Complete data were available for 3162 (80.7%). Mortality was greater among those with SALRI-EPC compared to controls and greater among those with past SALRI compared to MALRI, irrespective of radiological findings (see table). Confounding by vaccination status was not evident as the crude relative risk of mortality for SALRI-EPC compared to no ALRI (3.72; 90% CI 2.82, 4.92) was similar to analysis stratified by vaccination status, 3.70; 90% CI 2.80, 4.89.

Follow-up groups: number of deaths, proportion vaccinated & deaths by vaccine allocation

<table>
<thead>
<tr>
<th>Participant category</th>
<th>Number traced/sampled</th>
<th>Sex (% Male)</th>
<th>Incidence proportion</th>
<th>Proportion vaccinated Deaths vaccine</th>
<th>Deaths placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALRI-EPC</td>
<td>423/499 (84.8%)</td>
<td>242 (57.2%)</td>
<td>66 (15.6%)</td>
<td>176 (41.6%)</td>
<td>41/1247 (16.6%)</td>
</tr>
<tr>
<td>SALRI-no EPC</td>
<td>390/480 (81.3%)</td>
<td>212 (54.4%)</td>
<td>55 (14.1%)</td>
<td>195 (50.0%)</td>
<td>23/195 (11.8%)</td>
</tr>
<tr>
<td>MALRI-EPC</td>
<td>851/1020 (83.4%)</td>
<td>451 (53.0%)</td>
<td>45 (5.3%)</td>
<td>424 (49.8%)</td>
<td>22/427 (5.2%)</td>
</tr>
<tr>
<td>MALRI-no EPC</td>
<td>397/503 (78.9%)</td>
<td>199 (50.1%)</td>
<td>21 (5.3%)</td>
<td>179 (45.1%)</td>
<td>14/218 (6.4%)</td>
</tr>
<tr>
<td>No ALRI</td>
<td>1101/1418 (77.6%)</td>
<td>568 (51.6%)</td>
<td>44 (4.0%)</td>
<td>579 (52.6%)</td>
<td>23/522 (4.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>3162/3920 (80.7%)</td>
<td>1672 (52.9%)</td>
<td>231 (7.3%)</td>
<td>1553 (49.1%)</td>
<td>123/1609 (7.6%)</td>
</tr>
</tbody>
</table>

Conclusion: ALRI-EPC <2.5 years of age was associated with 3.7 times the risk of mortality until 6 years of age, while compared to MALRI or no ALRI, SALRI was also associated with increased mortality. SALRI at a young age may be associated with a predisposition to life threatening illness.

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Tetanus: Clinical and epidemiological characteristics. Review of 11 years

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Background: Tetanus is an infection disease, caused by the neurological toxicity of tetanospasmin, exotoxin produced by Clostridium tetani. Although it is a preventable disease through vaccination, there are about 100 cases annually.

Methods: A retrospective study and analysis of patients with tetanus, made in the Rawson Hospital in Cordoba city, during the period covered between May 1, 1998 and October 30, 2009. Inclusion criteria: patients with age> 15 years, clinical diagnosis of tetanus.

Results: The incidence was 0.33 per 100,000; average 1.4 cases per year. Of the 12 cases analyzed, 58.3% were men, average age 68.5 years. 50% had incomplete immunization and 50% had no immunization records. 100% of the patients presented as generalized tetanus. Port of entry was determine in 75%: skin lesions predominate in the lower limbs. Incubation period of less than 7 days and a period of invasion less than 48 hours in 66%. Symptoms more common: trismus 100%, dysphagia 91%, generalized muscle contracture 83%, muscle spasms 58%. Complications: Ventilator-associated pneumonia 50%, atelectasis 33%, scarring 25%. Treatment: 42% received penicillin G sodium, 42% metronidazole and 16% both antimicrobials. Mortality 75%.


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