GRADE Table 3:
Yellow fever vaccine-associated viscerotropic disease in travellers aged 60 years and older

**Population:** Travellers receiving yellow fever vaccination  
**Intervention:** Yellow fever vaccination ≥ 60 years of age  
**Comparison:** Yellow fever vaccination < 60 years of age  
**Outcome:** Yellow fever vaccine-associated viscerotropic disease

Are elderly travelers over 60 years of age at greater risk of Yellow fever vaccine-associated viscerotropic disease (YF-AVD)?

<table>
<thead>
<tr>
<th>Quality Assessment</th>
<th>Rating</th>
<th>Adjustment to rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factors decreasing confidence</td>
<td>No. of studies/starting rating</td>
<td>2/ observational⁷</td>
</tr>
<tr>
<td>Limitation in study design</td>
<td>Serious⁸</td>
<td>-1</td>
</tr>
<tr>
<td>Inconsistency</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Indirectness</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Imprecision</td>
<td>None Serious</td>
<td>0</td>
</tr>
<tr>
<td>Publication bias</td>
<td>None serious</td>
<td>0</td>
</tr>
<tr>
<td>Factors increasing confidence</td>
<td>Large effect</td>
<td>Applicable⁹</td>
</tr>
<tr>
<td>Dose-response</td>
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<td>0</td>
</tr>
<tr>
<td>Antagonistic bias and confounding</td>
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</tr>
</tbody>
</table>

**Final numerical rating of quality of evidence**

2

**Statement on quality of evidence**
Our confidence in the estimate of the effect on the outcome is limited.

**Conclusion**
Age-related data showing an association between higher rates of serious adverse events after yellow fever vaccination in travelers can be seen. Yet the evidence to support association between older age and YF-AVF in travelers is limited. Further research is needed to support the hypothesis.

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⁷ Two observational studies measured reporting rate ratio of YF-AVD in travellers over 60 years (Khormava et al. 2005, Lindsey et al. 2008). Some additional trials included reports of YF-AVD in travelers over 60 years, but these were either in endemic settings or provided no age-related analysis (Martin et al. 2001, Martins RdM et al. 2010, Monath et al. 2005, Lawrence et al. 2004; Fitzner et al. 2004; Martins et al. Struchiner et al. 2004; Whittembury et al. 2009).

⁸ Source of data was passive public health surveillance. Reporting rate ratio has possibly been overestimated if the true rate for travellers over 60 has increased since 1998.

⁹ RRR significantly higher compared to reference group (5.9 [95%CI 1.6-22.2] for 60-69 years of age and 10.4 [95%CI 2.7-40.2] for ≥70 years) (Khormava et al. 2005)
Reference List

(1-9)


