Asymptomatic Carotid Artery Disease

To the Editor:

Dr. Mohr has provided a valuable review of asymptomatic carotid artery disease. However, he misquotes the findings of Jonas and Hass. Jonas and Hass concluded that after extracranial arterial surgery for TIA, a stroke complication rate of 2.9% is unacceptable if one wishes to have results that are significantly better than the results for the medical group in the Joint Study. The figure of 2.9% applies only to strokes, not to the combined morbidity-mortality rate as Dr. Mohr states.

I have applied that same χ² analysis used by Jonas and Hass to the total stroke and death rate reported for TIA patients in the Joint Study (table). In the non-surgical group the total morbidity and mortality was 25.9%. In order to reach statistical superiority at the 5% level, the total morbidity and mortality in the surgical group would have to be no more than 16.8%. Subtracting the 15.4% long-term (42 month) morbidity and mortality rate yields an “acceptable” post-operative stroke or death rate of 1.4% or less.

As non-surgical patients do not require arteriography, a combined morbidity-mortality rate of over 1.4% for arteriography, endarterectomy, and the post-operative period is unacceptable. It is unlikely that such a low morbidity-mortality rate could be achieved.

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References

Editor’s Note: This communication was sent to Dr. Jones for comment, and his reply follows.

To the Editor:

Dr. Karis’ comment that the 2.9% figure applies only to strokes is correct, and his subsequent analysis is intriguing. He might wish to use a Yates-corrected χ² (for 1 dF), which would slightly strengthen his point (16.2% = 27.4 strokes plus deaths rather than 16.8% = 28.4 strokes plus deaths in 169 surgical patients; χ² value = 3.88; p is less than 0.05).

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TABLE

Joint Study. TIA’s — Total Series. Maximal Acceptable Complication Rate After Surgery

<table>
<thead>
<tr>
<th></th>
<th>Non-surgical</th>
<th>Surgical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of patients</td>
<td>147</td>
<td>169</td>
</tr>
<tr>
<td>Total stroke or death</td>
<td>38 (25.9%)</td>
<td>Calculated acceptable total stroke or death (Χ² = 3.88, P = 0.049) 28.4 (16.8%)</td>
</tr>
<tr>
<td>Long-term stroke or death</td>
<td>36 (24.5%)</td>
<td>Long-term stroke or death 26 (15.4%)</td>
</tr>
<tr>
<td>One month stroke or death</td>
<td>2 (1.4%)</td>
<td>Calculated acceptable post-operative stroke or death 2.4 (1.4%)</td>
</tr>
</tbody>
</table>
Asymptomatic carotid artery disease.
R Karis

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http://stroke.ahajournals.org/content/14/3/443.citation