Outcome Comparison of Endoscopic and Transpalpebral Decompression for Treatments of Frontal Migraine Headaches

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Abstract

Background: This study was designed to compare the efficacy of the transpalpebral versus endoscopic approach to decompression of the supraorbital and supratrochlear nerves in patients with frontal migraine headaches.

Methods: The medical charts of 253 patients who underwent surgery for frontal migraine headaches were reviewed. These patients either underwent transpalpebral nerve decompression (TPND, n=62) or endoscopic nerve decompression (END, n=191). The preoperative and ≥12 month postoperative migraine frequency, duration, and intensity were analyzed to determine the success of the surgeries.

Results: Forty-nine (79%) of 62 patients in the TPND group and 170 (89%) of 191 patients who underwent END experienced a successful outcome (at least 50% decrease in migraine frequency, duration, or intensity) after one year from surgery. END had a significantly higher success rate than TPND (p<0.05). Thirty-two (52%) patients in the TPND group and 128 (67%) patients who underwent END observed elimination of migraine headaches. The elimination rate was significantly higher in the END group than in the TPND group (p<0.03) (Figure 1).

<table>
<thead>
<tr>
<th></th>
<th>TPND</th>
<th>END</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Success Rate</td>
<td>79%</td>
<td>89%</td>
<td>p&lt;0.05</td>
</tr>
<tr>
<td>Elimination Rate</td>
<td>52%</td>
<td>67%</td>
<td>p&lt;0.03</td>
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Figure 1. Success and Elimination Rates; *p-value calculated from chi-square tests

Conclusions: END was found to be more successful at reducing or eliminating frontal migraine headaches than TPND and should be selected as the first choice whenever it is anatomically feasible.

Disclosure/Financial Support
The authors have no financial interest to declare in relation to the content of this abstract.