The cost effectiveness and duration of effectiveness of SLT as Primary and Secondary therapy relative to medications in the treatment of primary open angle glaucoma

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1. PURPOSE

To assess the cost effectiveness and duration of effectiveness of selective laser trabeculoplasty (SLT) relative to medications when used as primary therapy and when used as secondary treatment for primary open angle glaucoma

2. METHODS

1. PURPOSE

- Retrospective, chart review of primary open angle glaucoma patients who underwent SLT between January 2002 and October 2011
- Patients were divided into 2 groups: SLT primary therapy (Group 1), and SLT secondary therapy (Group 2)
- Number and types of medications pre and post SLT were determined
- Duration of SLT effectiveness: the interval between performing SLT and adding new medication or other surgical intervention
- Data were logged every 3 months for 6 months and every 6 months thereafter
- average monthly cost of the SLT was determined based of the mean duration of effectiveness of SLT for each group
- Based on the average monthly cost of each medication, the months required to achieve cost equivalence for each medication type to SLT were determined and compared to the mean duration of SLT effectiveness while off medication

Table 1: Comparison between groups

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age</td>
<td>63.98</td>
<td>64.46</td>
</tr>
<tr>
<td>Total eyes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OD</td>
<td>42</td>
<td>47</td>
</tr>
<tr>
<td>OS</td>
<td>43</td>
<td>40</td>
</tr>
<tr>
<td>Mean cost of SLT per month</td>
<td>$27.97</td>
<td>$33.57</td>
</tr>
<tr>
<td>Mean duration of SLT effectiveness (months)</td>
<td>28.81</td>
<td>25.57</td>
</tr>
</tbody>
</table>

4. RESULTS

- A total of 170 eyes of 109 patients were included in the study, with 83 eyes in Group 1 and 87 eyes in Group 2 (Table 1)
- In Group 1 (SLT as primary therapy), SLT was effective for a mean duration of 29 months at a mean cost of €21,98/($27.97)/month while in Group 2 (SLT as secondary therapy), SLT was effective for a mean duration of 26 months at a mean cost of €26,39/($33.57)/month (Table 1)
- In Group 2, the mean duration of SLT effectiveness was inversely related to the number of medications prior to SLT (Figure 1)
- In Group 2, by reducing the number of medications after SLT, there was an average cost savings of €12,58/($16/month in 66/87 eyes (76%)

5. CONCLUSION

- SLT achieved a mean duration of 29 months with the lowest per month cost at €21,98/($27.97)/month as primary therapy due to a longer duration of effectiveness without the need for medications compared to SLT as secondary therapy with a mean duration of 26 months and cost of €26,39/($33.57)/month
- The more duration of effectiveness of SLT, the lower the SLT effectiveness
- The duration of effectiveness of SLT in patients where medications were reduced exceeds the months required to achieve cost equivalence for most types of medications

References: