SELECTIVE LASER TRABECULOPLASTY (SLT)

Improving the Standard of Care for Glaucoma Patients
• Glaucoma Laser Trial (GLT)
• Advanced Glaucoma Intervention Trial (AGIS)
• Collaborative Initial Glaucoma Treatment Study (CIGTS)
• Early Manifest Glaucoma Trial (EMGT)

As compared to eyes initially treated with medication, eyes initially treated with laser trabeculoplasty had 1.2 mm Hg greater reduction in intraocular pressure (P < .001) and 0.6 dB greater improvement in the visual field (P < .001) from entry into the Glaucoma Laser Trial.

Conclusioni:
L’ALT utilizzata come terapia iniziale per il glaucoma ad angolo aperto è efficace almeno quanto la terapia medica.
Laser trabeculoplasty for open angle glaucoma (Review)

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This is a reprint of a Cochrane review, prepared and maintained by The Cochrane Collaboration and published in The Cochrane Library 2009, Issue 1

http://www.thecochranelibrary.com

Laser trabeculoplasty for open angle glaucoma (Review)
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LASER TRABECULOPLASTICA vs TERAPIA MEDICA

Analysis 1.1. Comparison of Argon laser trabeculoplasty versus medication in newly diagnosed participants, Outcome 1: Failure to control IOP.

Review: Laser trabeculoplasty for open-angle glaucoma.

Comparison: 1 Argon laser trabeculoplasty versus medication in newly diagnosed participants.

Outcome: 1 Failure to control IOP.

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>ALT n/N</th>
<th>Medication n/N</th>
<th>Risk Ratio M+H Random, 95% CI</th>
<th>Weight</th>
<th>Risk Ratio M+H Random, 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 at 6 months</td>
<td>7/40</td>
<td>13/42</td>
<td>39.7 %</td>
<td>0.57 [0.25, 1.27]</td>
<td></td>
</tr>
<tr>
<td>GLT</td>
<td>31/271</td>
<td>94/271</td>
<td>60.3 %</td>
<td>0.33 [0.23, 0.48]</td>
<td></td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>311</td>
<td>313</td>
<td>100.0 %</td>
<td>0.38 [0.24, 0.61]</td>
<td></td>
</tr>
</tbody>
</table>

Total events (ALT, 107), (Medication).

Heterogeneity: Tau^2 = 0.04, Chi^2 = 1.41, df = 1 (P = 0.23), I^2 = 13%

Test for overall effect: Z = 1.01 (P = 0.31).

3 at 24 months:

Bergen 1992     1/40    20/42   34.3 %  0.74 [0.43, 1.25]  
GLT            132/271 170/271 44.5 %  0.30 [0.20, 0.49]  
Moorfields PTT  8/55    6/56    21.2 %  1.36 [0.60, 3.04]  
Subtotal (95% CI) | 366     | 369            | 100.0 %                     | 0.80 [0.71, 0.91]|

Total events (ALT, 316), (Medication).

Heterogeneity: Tau^2 = 0.03, Chi^2 = 1.21, df = 2 (P = 0.55), I^2 = 0.0%

Test for overall effect: Z = 1.41 (P = 0.00065).

Favour ALT Favour Medication.
### Analysis 1.2. Comparison 1 Argon laser trabeculoplasty versus medication in newly diagnosed participants,

**Outcome 2. Visual field progression.**

Review: Laser trabeculoplasty for open angle glaucoma

Comparison: 1 Argon laser trabeculoplasty versus medication in newly diagnosed participants

<table>
<thead>
<tr>
<th>Study or subgroup</th>
<th>ALT (n/N)</th>
<th>Medication (n/N)</th>
<th>Risk Ratio</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 at 24 months:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bergea 1992</td>
<td>140/142</td>
<td></td>
<td>3.0 %</td>
<td>1.05 [0.37, 16.23]</td>
</tr>
<tr>
<td>GLT</td>
<td>22/271</td>
<td>32/271</td>
<td>67.0 %</td>
<td>0.40 [0.41, 1.15]</td>
</tr>
<tr>
<td>Subtotal (95% CI)</td>
<td>311/313</td>
<td></td>
<td>100.0 %</td>
<td>0.70 [0.42, 1.16]</td>
</tr>
</tbody>
</table>

Total events: 23 (ALT), 33 (Medication)

Heterogeneity: Chi² = 0.09, df = 1 (P = 0.77); I² = 0.0%

Test for overall effect: Z = 1.39 (P = 0.16)
Main results

This review included 19 trials involving 2137 participants. Only five trials fulfilled the criteria of good methodological quality. One trial compared laser trabeculoplasty with topical beta-blocker to no intervention in early glaucoma. The risk of glaucoma progression was higher in the control group at six years of follow up (risk ratio (RR) 0.71 95% confidence interval (CI) 0.53 to 0.95). No difference in health-related quality of life was observed between the two groups. Three trials compared laser trabeculoplasty to medication (regimens used before the 1990s) in people with newly diagnosed OAG. The risk of uncontrolled intraocular pressure (IOP) was higher in the medication group compared to the trabeculoplasty group at six months and two years of follow up. Three trials compared laser trabeculoplasty with trabeculectomy. The risk of uncontrolled IOP was significantly higher in the trabeculoplasty group at six months but significant heterogeneity was observed at two years. Diode and selective laser are compared to argon laser trabeculoplasty in three trials and there is some evidence showing a comparable effect in controlling IOP at six months and one year of follow up.
VII - TREATMENT STEPLADDER

JUVENILE

MEDICAL RX

MEDICAL RX

LASER \* TRABECULOPLASTY

Filtration Surgery
Trabeculectomy

Filtration Surgery

MEDICAL RX

CONSIDER TREATMENT IN PATIENT WITH REPEATED IOPs IN THE HIGH 20s EVEN WITHOUT ADDITIONAL RISK FACTORS. ALWAYS CONSIDER CORNEAL THICKNESS MEASUREMENTS

FOOTNOTE:

IF THE ABOVE NOT SUCCESSFUL, CONSIDER REPEAT FILTRATION SURGERY+ANTIMETABOLITES OR AQUEOUS DRAINAGE IMPLANT/CYCLO DESTRUCTIVE PROCEDURE

* In certain cases, it may be necessary to consider filtration surgery without resorting to laser trabecuoplasty

* up to 2-3 different drugs. Do not add a drug to a non-effective one; consider switching

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L'obiettivo della terapia del glaucoma è quello di conservare un grado di funzione visiva e di conseguente qualità di vita adeguati alle esigenze del singolo paziente, ad un costo sostenibile.

3.2.2 - TRATTAMENTO INIZIALE DEL GLAUCOMA AD ANGOLO APERTO

Molti pazienti con glaucoma ad angolo aperto vengono trattati inizialmente con farmaci topici. Anche la trabeculoplastica laser costituisce una possibilità terapeutica iniziale efficace.

La trabeculoplastica laser è un'opzione terapeutica efficace per il trattamento iniziale del glaucoma ad angolo aperto.

3.3.2 - PREPARAZIONI FARMACEUTICHE COMBINATE

Inoltre, se non ancora praticata, bisognerebbe prendere in considerazione la trabeculoplastica laser [II,D].
SEM: crater formation in the uveal meshwork. Coagulative damage at the base and along edge of craters: disruption of collagen beams, fibrinous exudate, lysis of endothelial cells, nuclear and cytoplasmic debris.

SEM: minimal evidence of thermal disruption and damage