GLAUCOMA AND ALPHA LIPOIC ACID IN DIABETIC RETINOPATHY

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Aim: The aim of this work is to point out possible therapeutic effect of alpha lipoic acid (ALA) on glaucoma in patients with diabetic retinopathy. Secondary glaucoma is one of the worst complications in diabetic eyes and cause blindness for long period of time. Diabetic eye with present glaucoma, cataract and diabetic retinopathy is the most serious complication for working people.

Patients and methods: 100 patients with diabetic retinopathy were divided in two groups: first 50 patients with (ALA) therapy and second without (ALA) therapy. Study was performed from 2009 to 2010 years. Patients average age in group of patients with ALA was 58 and control group was 61 year. Glaucoma diagnose was confirm with intraocular pressure measurement with tonometry (Goldman) gonioscopy and visual field confirmation, as well. ALA in treatment was followed up in patients of first group in the begining, three, sixs months and one year from the study begining. Control group was followed in the same periods with IOP measurements and other parameters four galucoma. ALA was used per oral in first three months two times in the dose of 300 mg and after it was taken only once a day. This remedta was prescribed by neurologist because ALA was registered for diabetic neuropathy.

Results: In the first group with ALA treatment glaucoma patients were founded 10% comparing with second group without ALA treatment 40% of patients with glaucoma and diabetic retinopathy.

Different complications in patients with diabetic retinopathy in two groups (With and without ALA therapy)

<table>
<thead>
<tr>
<th>Type of complications</th>
<th>Working group with ALA therapy</th>
<th>Control group without ALA</th>
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<tbody>
<tr>
<td>1- GLAUCOMA</td>
<td>5 (10%)</td>
<td>20 (40%)</td>
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<tr>
<td>2- CATARACT</td>
<td>11 (22%)</td>
<td>12 (24%)</td>
</tr>
<tr>
<td>3- GLAUCOMA &amp; CATARACT</td>
<td>8 (16%)</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>4-NO COMPLICATION</td>
<td>23 (46%)</td>
<td>13 (26%)</td>
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</tbody>
</table>

Conclusion: statistical difference in two groups patients with diabetic retinopathy with and without ALA is confirmed with t-test (t=4.452 df-49 P=0.0005). Second group patients without ALA therapy had four times bigger glaucoma patients. Alpha lipoic acid (ALA) could be used in diabetic complications (as diabetic neuropathy) but could used in prevention of others diabetic complications, especialy in the eye, as well.

• Patients with diabetes have 40% more chances to get glaucoma as diagnose and chances for this illness is higher in elderly persons. The most number of elderly patients may undiagnosed considering patient with diabetes who are doing regular control and diagnostic possibility is much higher (Klein R. and others., 1997).
• Glaucoma risk is much higher in diabetes type 1 (insulin dependent).
• Secondary glaucoma in diabetes could be in form of neovascular glaucoma which is common in patients with proliferative changes in retina-retinopatia diabeticca proliferativa (Kanski J., 2004).
• As diabetes being longer, possibilities for glaucoma are higher and patients age is also risk factor older patients and their age are with higher incidence for glaucoma appearance.
• Glaucoma, as complication in patients with diabetic retinopathy, and with alpha lipoic acid therapy, was four times less presented comparing with control group of patients without alpha lipoic acid, according to research results after one year of treatment.

Conclusion: Statistical difference in two groups patients with diabetic retinopathy with and without ALA is confirmed with t-test (t=4.452 df-49 P=0.000). Second group patients without ALA therapy had four times bigger glaucoma patients. Alpha lipoic acid (ALA) could be used in diabetic complications (as diabetic neuropathy) but could used in prevention of others diabetic complication, especially in the eye. It should be added to therapy procedure in diabetic retinopathy complications and diabetic eye prevention, as well.

Literature: