Thymectomy for myasthenia gravis: a fourteen-year experience

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Over the last 14 years we have thymectomized 106 myasthenic patients, 62 by transcervical and 44 by transsternal approach. At the end of the follow-up 49 patients (46.2%) had improved, 12 of these (11.2%) being in remission. Our data supply no guidance regarding the prognosis of individual patients at the time of thymectomy. In our hands neither operation seemed to modify the natural course of myasthenia gravis.

Key-Words: Myasthenia Gravis (MG) — thymectomy — MG therapy

Introduction

The discussion regarding the efficacy of thymectomy in the treatment of myasthenia gravis (MG) seemed to reach a conclusion after reports of remissions (21% to 36%) from various studies on large populations [8]. These results, associated with a lower surgical risk for the transcervical approach [12] and the need to operate on patients with an undiagnosed thymoma, induced the majority of authors to operate on all myasthenic patients with a generalized form of the disease, even if mild. McQuillen and Leone [8] in 1977 and Grob [5] in 1981 again queried the real efficacy of thymectomy in modifying the natural course of the disease. We were induced to review the use of thymectomy for our patients by the arguments of these authors and the wide range of proposed surgical approaches [15].

Methods

106 patients, 75 women and 31 men, aged 3 to 68 years, were thymectomized between 1968 and 1982. Up to 1978 we thymectomized all our patients with generalized (MG). After that year we decided not to thymectomize patients over the age of 40 who had no thymoma and who showed an excellent response to immunosuppressive therapy. The age at onset of MG ranged from 3 to 66 years (Fig. 1). The interval between onset of symptoms and thymectomy ranged from 4 months to 32 years. 70.2% of patients were operated on within 3 years of onset. 18 patients, 10 women and 8 men, aged 11 to 63 years, were thymomatous. The mean follow-up of our patients was 3.3 years and refers only to those patients in whom thymectomy has been the only therapeutic change.

The diagnosis of MG was based on clinical, pharmacological and electromyographic criteria. We considered 83 patients never treated with steroids and/or immunosuppressive therapy and 23 patients treated with steroids both before and after thymectomy. For 30 patients of the former group, whose symptoms were interfering with their daily life and work in spite of cholinesterase inhibitor therapy and thymectomy, steroid treatment was instituted only after thymectomy [16]. For these patients the follow-up was stopped on introduction of the new therapy. Patients received cholinesterase inhibitor therapy whenever was necessary. We described cri-
teria for clinical evaluation in a previous study [16] in which the severity of the disease was defined according to a modified Osserman's classification.

At the end of the follow-up, we defined the response to the thymectomy as:

--- **R** --- complete remission: no clinical signs for at least 1 year without drug treatment.

--- **I** --- improvement: patients reverted to a less advanced clinical stage, still receiving drugs.

--- **U** --- unchanged: patients remained at the same clinical stage.

--- **W** --- worsened: patients progressed to a more advanced stage of the disease.

--- **D** --- dead.

62 patients were operated by transcervical approach. 44 patients, including 18 thymomatous, by a transsternal approach.

3 patients underwent a second thymectomy.

### Results

12 (11.3%) patients were in remission and 37 (34.9%) improved (Table I). The percentage of remissions was higher, although not to a statistically significant degree (p = 0.06) in patients operated on within a year of onset of symptoms (Table II).

We found no significant difference in the prognosis when correlated either with sex or age at onset of the disease. The transcervical versus transsternal approach did not modify the prognosis. At a second thymectomy we found thymic residues in 2 out of 3 tested patients. Thymic

### Table I. Efficacy of thymectomy. General results related to pre-surgery patients classification

<table>
<thead>
<tr>
<th>Patients</th>
<th>R</th>
<th>I</th>
<th>U</th>
<th>W</th>
<th>D</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>mild M.G.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>8</td>
<td>18</td>
<td>19</td>
<td>7</td>
<td>54</td>
</tr>
<tr>
<td>2A</td>
<td>52</td>
<td>(14.8%)</td>
<td>(33.3%)</td>
<td>(35.2%)</td>
<td>(13%)</td>
<td>(3.7%)</td>
</tr>
<tr>
<td>severe M.G.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2B</td>
<td>33</td>
<td>4</td>
<td>19</td>
<td>17</td>
<td>3</td>
<td>9*</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>(7.7%)</td>
<td>(36.5%)</td>
<td>(32.7%)</td>
<td>(5.8%)</td>
<td>(17.3%)</td>
</tr>
<tr>
<td>4</td>
<td>13</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>37</td>
<td>36</td>
<td>10</td>
<td>11</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>(11.3%)</td>
<td>(34.9%)</td>
<td>(33.9%)</td>
<td>(9.4%)</td>
<td>(10.4%)</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

R = Remission  I = Improved  U = Unchanged  W = Worsened  D = Dead  * = 5 thymomas