Atherosclerosis of the carotid arteries is the main cause of stroke or transient ischemic attack (TIA) in adults [1]. Atherosclerotic lesions may be found in infancy and worsen with aging [2]. The process of this disease is dynamic, in constant evolution, with a possibility of accumulation of new elements in the atheroma, regression of the same, degeneration or tissue restructure, causing, as a final result, a tendency of progressive worsening [3,4]. This worsening can be seen as the increase of the plaque and/or in the degree of stenosis. The reduction of the plaque and/or in the degree of stenosis is currently one of the great challenges in the treatment and prevention of atherosclerotic diseases. Modification and stabilization of the plaque has been proposed as one of the benefits of the treatment with lipid reducers [5] and inhibitors of the angiotensin-converting enzyme (I-ACE) [6]. In this process of evolution there is also a strong relationship to inflammatory and infectious events [3,7,8]. Several studies have evaluated plaque regression with lipid reduction [9,10] and blood pressure [6] and the role of drugs with anti-inflammatory properties and endothelial remodeling [3,6,11,12].

Few studies are dedicated to analyzing the spontaneous evolution of the plaque, independent of the presence of risk factors, its maintenance or correction. This present study aims to address the following aspect: study the spontaneous evolution of carotid atherosclerosis, in patients without the classic risk factors, who do not use medication that theoretically could interfere in the course of the disease.

Our objective is to evaluate the spontaneous evolution of extracranial carotid atherosclerosis in asymptomatic patients who did not present the main risk factors associated with the disease. This is a prospective study including patients of both genders, age ranging from 40 to 70 years, not presenting any signs and symptoms of cerebrovascular disease and without the main atherosclerosis risk factors were included. Patients who were using or had used medication during the follow-up period that could potentially influence in the spontaneous course of atherosclerosis were excluded. The possible roles of these factors, which interact in the atherosclerotic evolution, were not a specific aim for development in this study. We tried to focus on the behavior of the plaque in the spontaneous evolution, which could be a base for prompt clinical decisions. The evaluation of the plaque and degree of stenosis were acquired using mode B, 7.5 MHz Doppler ultrasonography (USG). The follow-up was carried out for 36 months, with clinical, neurological, and USG exams repeated in a period of 6 to 8 months.
Ninety-six individuals (48 women) completed the study with the presence of plaque, and 52 (26 women) with a degree of stenosis.

The results showed, as to the degree of stenosis, 25% of the patients had worsening, 69% remained stable, and 6% improved. When only the presence or absence of plaque was considered, 20% showed worsening (developed plaque during follow-up), 7% improved (disappearance of plaque), and 73% remained stable. No differences were found between the male and female patients.

Table 1. Comparative spontaneous evolution of the atherosclerotic plaque and stenosis degree in the carotid artery, between asymptomatic men and women after the 36-month follow-up, Santa Casa de São Paulo, 05/1997 to 07/2002

<table>
<thead>
<tr>
<th>Condition of the Plaque</th>
<th>Women</th>
<th>Men</th>
<th>Stenosis Degree</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Stable</td>
<td>35</td>
<td>36.5</td>
<td>35</td>
<td>36.5</td>
<td>18</td>
</tr>
<tr>
<td>Worsened</td>
<td>9</td>
<td>9.4</td>
<td>10</td>
<td>10.4</td>
<td>7</td>
</tr>
<tr>
<td>Improved</td>
<td>4</td>
<td>4.1</td>
<td>3</td>
<td>3.1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>50</td>
<td>48</td>
<td>50</td>
<td>26</td>
</tr>
</tbody>
</table>

Obs: in the statistical analysis, the p value was not significant neither for the condition of the plaque nor the stenosis degree.

These results confirm the dynamic characteristics of the plaque and may be useful in aiding in the decision-making process, especially in high-risk patients, in view of the necessity to choose between a therapeutic and a surgical approach. This information could be useful as a parameter for comparison in the follow-up of high-risk patients that could be candidates for intervention or surgical procedures.

References


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