The Changes of Thyroid Function after Coronary Angiography in Koreans

Dong Sun Kim¹, Jung Hwan Park¹, Yeon-Ah Sung², Sei Hyun Baik³

Department of Internal Medicine, Hanyang University College of Medicine, Seoul, Korea¹
Department of Internal Medicine, Ewha Womans University School of Medicine, Seoul, Korea²
Department of Internal Medicine, Korea University College of Medicine, Seoul, Korea³

Introduction & Objectives

The risk of iodine-induced thyrotoxicosis is increased in patients with Grave’s disease and multi nodular goiter with thyroid autonomy. At same time, hypothyroidism can develop after iodine exposure in patients with Hashimoto’s thyroiditis. But, there are no studies about the influence of iodine containing contrast media on thyroid function in excessive iodine intake area. This study was done to evaluate the changes of thyroid function after coronary angiography (CAG) with/without percutaneous coronary intervention (PCI) (CAG±PCI) in Koreans with excessive iodine intake.

Methods

56 subjects with normal thyroid function who admitted for CAG±PCI were enrolled. Levels of thyrotropin (TSH) and free thyroxine (FT4) in serum were measured before CAG±PCI and at 1 and 12 weeks after CAG±PCI.

Results

The mean age of study subjects was 64.43 ± 9.34 years. Among the study subjects, the number of male subjects was 30 (53.6%). Figure 1 shows the age distribution of subjects.

Fig. 1. Age distribution of the 56 subjects studied.

There was no statistical significance of levels of TSH measured between before CAG±PCI and at 1 and 12 weeks after CAG±PCI.

Table 1. Results of thyroid function test before and after CAG±PCI

<table>
<thead>
<tr>
<th></th>
<th>0 week</th>
<th>1 week</th>
<th>12 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSH (mIU/mL)</td>
<td>2.11 ± 1.21</td>
<td>2.35 ± 1.30</td>
<td>1.90 ± 1.14</td>
</tr>
<tr>
<td>FT4 (ng/dL)</td>
<td>1.25 ± 0.25</td>
<td>1.32 ± 0.24</td>
<td>1.23 ± 0.23</td>
</tr>
</tbody>
</table>

Values are presented as mean±SD.

Table 2. Results of thyroid function test depending on whether the PCI was performed or not

<table>
<thead>
<tr>
<th></th>
<th>No PCI</th>
<th>PCI</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSH (mIU/mL)</td>
<td>2.15 ± 0.96</td>
<td>2.46 ± 1.31</td>
<td>0.404</td>
</tr>
<tr>
<td>FT4 (ng/dL)</td>
<td>1.30 ± 0.23</td>
<td>1.33 ± 0.25</td>
<td>0.392</td>
</tr>
</tbody>
</table>

Values are presented as mean±SD.

Discussion

There were no changes of thyroid function after CAG in Koreans with normal thyroid function. Mild elevations of FT4 levels at 1 week after CAG±PCI was observed, but it normalized at 12 weeks after CAG±PCI. This suggests that there was no significant affect of iodine containing contrast media on thyroid function.

References