Effectiveness of radiofrequency ablation of the autonomously functioning benign thyroid nodules

Solovov V.A., Makhonin A.A., Vozdvizhenskiy M.O., Orlov A.E.
Samara Regional Oncology Center, Samara, Russia

The usual treatment for autonomously functioning benign thyroid nodules was surgery until the advent of new techniques such as radiofrequency ablation (RFA). This study aimed at estimating RFA efficacy of autonomously functioning benign thyroid nodules.

Material & Method
The analysis included the results of treatment of 108 patients with autonomously functioning benign tumors of the thyroid gland, received in the Samara Oncology Center.

All patients had high level of thyroid hormones and low level of thyrotropin.

In all of them scintigraphy determined hot nodules.

All the patients underwent fine needle biopsy twice.

RF ablation was performed using an 18-gauge, internally cooled electrode, length 10 cm, working part 0.7 cm.

During the follow-up nodule volume and thyroid function were evaluated.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Number</th>
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<tbody>
<tr>
<td>Age</td>
<td>57 (24-78)</td>
</tr>
<tr>
<td>Sex men</td>
<td>11</td>
</tr>
<tr>
<td>Sex women</td>
<td>97</td>
</tr>
</tbody>
</table>

Results
The mean follow-up was 15.3±3.6 months. The mean nodule max diameter was initially 6.5±4.1 cm and significantly decreased after treatment at 1 month (3.1±1.9 cm, p<0.05) and at 6 months (0.5±2.9 cm, p<0.05). Levels of triiodothyronine, free thyroxine, and thyrotropin reach normal in 2-3 weeks after RFA.

No serious complications such as thyroiditis, voice change, and hematomas were observed.

Conclusion
RFA was effective and safe for treating autonomously functioning benign thyroid nodules and it might be recommended for treating “hot” benign thyroid nodules as the first-line treatment.