Self-Examination of Thyroid Nodules

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Abstract. The management of occult small thyroid nodules found by ultrasonography is sometimes problematic. Self-palpation may be utilized in the follow-up of these nodules. We developed a method of thyroid self-examination (TSE). We examined the size of the nodules palpable by this method by ultrasonography. In 78 patients examined, all 38 tumors more than 2 cm in size, whereas only one of 14 tumors less than or equal to 1 cm in size, were palpable. These results suggest the clinical usefulness of TSE in the follow-up of thyroid tumors, which are very common and slow-growing.

Key words: Thyroid carcinoma, Thyroid self-examination, Ultrasonography, Nodular goiter, Occult tumor

THYROID tumors are relatively common, especially in women [1]. Recently, because of the wide use of ultrasonography for the screening of thyroid tumor or arteriosclerotic disease, the number of patients recognized to have an occult small thyroid nodule is much increased, and clinical management of these patients has engendered a new controversy [2]. Differentiated thyroid carcinomas are usually slow in growth, and fatal cases are rare. Thyroid tumors are often diagnosed by Fine Needle Aspiration Biopsy (FNAB), and, when diagnosed as malignant tumors, are dissected by surgery. However, in the case of small carcinomas, especially those less than 1 cm in diameter, indication of operation, or even FNAB, is controversial [3, 4]; some physicians recommend careful follow-up rather than invasive diagnostic methods or surgical therapy. A method of self-examination, similar in principle to that often performed in the case of breast carcinomas, developed for the use of thyroid nodules would be useful and convenient for application to the follow-up for these small thyroid nodules.

In this report, we introduce a method of thyroid self-examination (TSE), and use ultrasonography to estimate the size of tumors detectable by TSE.

Subjects and Methods

Subjects

A group of 78 patients (8 males and 70 females, aged between 18 and 78 years), who were diagnosed with thyroid nodule either by palpation by physicians or by ultrasonography, were studied.

Size-measurement of thyroid nodules

The longitudinal length of thyroid nodules was measured by ultrasonography. Tumors in which the cystic region occupied more than 50% of the total volume were classified as cystic tumors.

Thyroid self-examination

First, the physician indicates the position of the nodule identified by ultrasonography to the patient. Then the patient touches it by using their 2nd to 4th fingers.
Results

All patients with thyroid tumors, including cystic tumors, could identify their thyroid nodule by TSE when the size of their tumor was more than 2 cm, whereas only one in 14 patients could identify their tumor by touch when its size was less than or equal to 1.0 cm. The smallest tumor that was palpable by this method was a hard mass in the isthmus that was 0.7 cm in diameter, and by FNAB, it was suspected to be an oxiphilic cell tumor. When the size of the tumor was between 1.0 and 2.0 cm, 13 of 26 tumors (50%) were palpable (Table 1).

Discussion

Breast self-examination (BSE) has been widely used for the screening of breast carcinoma [5, 6]. Further, self-examinations of oral, facial, skin, and testicular carcinomas have been reported [7-9]. However, no study has been reported concerning self-examination of thyroid nodules and its clinical usefulness is not yet clear. This may be, at least in part, because differentiated thyroid carcinomas usually show good prognosis and it is thought that there is less need in thyroid carcinomas for early diagnosis than in other carcinomas.

In spite of the increased number of the patients found to have small thyroid nodules, their clinical management is still controversial. Recent studies showing good prognosis of small thyroid carcinomas, especially those that are less than 1.5 cm in diameter, have persuaded many physicians to choose observation rather than FNAB or surgery [10, 11]. However, this approach has created a new problem, because most thyroid tumors do not show rapid growth, a prolonged period of observation is necessary. Even so, when self-management by the patient is possible, it is expected to reduce the cost and time of long follow-up.

In this study, the vast majority of tumors larger than 1.5 cm in diameter were palpable by TSE. Malignant tumors such as papillary carcinomas tend to be harder than benign tissues, and it is expected

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>≤10</th>
<th>10&lt;≤15</th>
<th>15&lt;≤20</th>
<th>20&lt;≤25</th>
<th>25&lt;≤30</th>
<th>30&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>palpable</td>
<td>1 (0)*</td>
<td>5 (1)</td>
<td>8 (0)</td>
<td>10 (3)</td>
<td>9 (3)</td>
<td>19 (1)</td>
</tr>
<tr>
<td>not palpable</td>
<td>13 (2)</td>
<td>11 (4)</td>
<td>2 (1)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>% of the palpable tumors</td>
<td>7.1</td>
<td>31.2</td>
<td>80.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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</table>

* The number of cystic tumors is shown in the parentheses.
that, among smaller tumors, malignant growths are more likely to be palpable than those that are benign. These facts suggest the clinical usefulness of TSE in the follow-up of small thyroid nodules. For example, a patient who does not touch the nodule may be observed by repeated TSE until it becomes palpable. However, some small tumors at high risk, such as those that are near the recurrent nerve, pharynx, or esophagus, and those in elderly patients, should be carefully examined and followed-up by ultrasonography rather than by TSE.

Previous studies in BSE have reported the role of attitudinal and teaching interventions in increasing patient’s skill and frequency for BSE behavior [12]. In our study, our method is rather difficult to perform without the intervention of a physician, and most of the patients with a thyroid nodule less than 2 cm in diameter could not recognize the tumor until the physician indicated the right position of the thyroid. Given these actions, TSE might be most useful in the follow-up of a small thyroid nodule found by physician or by ultrasonography, but difficult to apply for self-screening of thyroid carcinomas.

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References


