Clinical Analysis of Risk Factors Related to Recurrent Well-Differentiated Thyroid Carcinoma

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ABSTRACT

Papillary thyroid cancer constitutes for about 70-80% of malignant thyroid cancers. While the occurrence rate of papillary thyroid cancer is increasing, the field has continued to decrease over the past fifteen years. Such a trend can be attributed to the increased awareness of the disease and the patients as well as the advanced technology in medical imaging and pathological diagnosis. Even though the overall prognosis of patients with papillary thyroid cancer is good, the fataltity is remarkably high in case of occurring carcinoma regardless of the stage. According to the report, the fataltity rate was around 60-50% in a ten-year follow-up period. However, the fataltity rate was increased even with the advanced technology in the field. For effective treatment of papillary thyroid cancer, it is important to investigate the risk factors for recurrence. The treatment is more difficult for recurrent case due to the apparently worse prognosis compared to the originally developed case. As a result, selecting surgical treatment methods is rather controversial. Therefore, this study conducts an analysis of the risk factors that influence the development of recurrent well differentiated thyroid carcinoma.

RESULTS

Demography and recurrence pattern
Among the 366 patients, 31 patients (8.5%) had suspected recurrence and hence received surgical treatment and biopsy, which confirmed the recurrent papillary thyroid cancer in every case. As for demographic data, the risk factors that showed statistically significant differences from those with the originally developed cancer were as follows: (Table 1) As for the diagnostic method for recurrence, the ultrasonic examination was the most frequent (26 cases, followed by CT scan (16 cases), and follow-up thyroid function test (15 cases). In a surgical findings and post-surgery biopsy, those who had lymph node metastasis had recurrence rate of 18 out of 98 and 6 out of 23. Meanwhile, an analysis based on the surgical coverage including subtotal dissection (15 cases) did not reveal statistical significance. (Table 3).

Risk factors of recurrence
In this study, a difference was found regarding extracapsular metastasis (p<0.01), anterior lymph node metastasis (p<0.05), and extracapsular extension (p<0.05). Among 92 patients with multiple lesions, 10 showed recurrences, while 11 out of 203 without extracapsular metastasis had recurrence. The Kaplan-Meier curve also confirmed that the recurrence rate is higher in case of extracapsular metastasis with a statistical significance (p<0.01). In this study, this relationship was confirmed even with the age group of both young and old age groups showed no significant difference, despite the fact that the number of cases in each age group was different.

Multivariate analysis
The overall recurrence rate was 18 (8.5%) and the fatality rate was 36% to 50% in a ten-year follow-up period. According to the report, the fataltity rate was around 60-50% in a ten-year follow-up period. However, the fataltity rate was increased even with the advanced technology in the field. For effective treatment of papillary thyroid cancer, it is important to investigate the risk factors for recurrence. The treatment is more difficult for recurrent case due to the apparently worse prognosis compared to the originally developed case. As a result, selecting surgical treatment methods is rather controversial. Therefore, this study conducts an analysis of the risk factors that influence the development of recurrent well differentiated thyroid carcinoma.

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