BRAFV600E MUTATION IN PATIENTS WITH PAPILLARY THYROID CARCINOMA CONCURRENT WITH HASHIMOTO THYROIDITIS

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Background/Purpose: It is reported that *BRAF*^{V600E} mutation is related to lower frequency of background Hashimoto thyroiditis (HT); however, there is not much factors known to be related to HT. The aim of the present study was to investigate which clinicopathological features may be related to HT in patients with papillary thyroid carcinoma (PTC).
Methods: A prospectively collected database of 2464 patients who underwent thyroidectomy enrolled between October 2008 and August 2012 was reviewed. All patients were offered thyroidectomy and the DNA was extracted from the atypical cells in permanent pathology for analysis of *BRAF*^{V600E}mutation. Clinical and pathologic characteristics were investigated.
Results: 800 consecutive patients who underwent conventional thyroidectomy were reviewed. HT was significantly associated with non-detected *BRAF*^{V600E} mutation (P=0.003) and female gender (P=0.001). In multivariate analysis, HT in PTC patients were closely related to low probability of *BRAF*^{V600E} mutation (Odds ratio (OR) 0.473, 95% confidence interval (C.I.) 0.287-0.778, P=0.003) and female gender (OR 5.486, 95% C.I. 1.974-15.247, P=0.001), respectively. In female gender, HT was associated with low probability of *BRAF*^{V600E}mutation.
Discussion & Conclusion: Our result showed that HT in PTC was associated with low probability of *BRAF*^{V600E} mutation in female gender. Therefore, these results may be useful to diagnose PTC concurrent with HT and plan treatment guidelines.