Lack of Association of BRAF V600E Mutation with Clinicopathological Features of Papillary Thyroid Carcinoma in a Chinese Regional Population

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Objective

Papillary thyroid carcinoma (PTC) is the most common endocrine neoplasm. B-type raf kinase (BRAF) V600E mutation has been proposed as a negative prognostic indicator in PTC, and patients harboring it should receive more aggressive initial therapy. This study was to assess the significance of BRAF V600E mutation in PTC in the large Chinese sample.

Methods

We performed a retrospective study of the relationship of BRAF V600E mutation with clinicopathologic outcomes of PTC in 611 patients (472 women and 139 men) age 45.2 ± 12.1 years (mean ± SD).

Results

The BRAF V600E mutation was detected in 80.9% of patients (494 of 611). The BRAF V600E mutation was associated with large tumor size (P < 0.05) and lymph node metastasis (P < 0.05) on univariate analysis but not on multivariate study. There was no significant association between BRAF positivity and age, gender, tumor multicentricity.

Conclusion

The BRAF V600E mutation was significantly associated with large tumor size and lymph node metastasis, but was not associated with other negative prognostic indicators in PTC. Several studies showed an overall association between BRAF status and aggressive disease features and guided the initial surgical approach in PTC. In this large Chinese study, BRAF status was not significantly associated with most clinicopathologic features suggestive of more aggressive disease. In China, efforts to recommend more aggressive initial therapies to BRAF-positive patients with PTC should be tempered until more long-term data related to outcome are available.