甲狀腺癌的第一型血紅素氧化酶表現與腫瘤惡性度與 BRAF V600E 表現相關

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Expression of heme oxygenase-1 correlates with tumor aggressiveness and BRAF V600E expression in thyroid cancer

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Purpose:
Heme oxygenase-1 (HO-1) is an inducible enzyme participating in heme degradation. Recent studies indicate that HO-1 activation may play a role in tumor development and progression. In this study, we evaluated the expression of HO-1 in thyroid cancer and its clinicopathological significance.

Materials and Methods:
We constructed tissue microarray from 138 patients with follicular cell-derived thyroid cancer. HO-1 expression was assessed using a semiquantitative immunohistochemical staining method. BRAF V600E expression was evaluated immunohistochemically and validated by Sanger sequencing.

Results:
We observed an upregulation of HO-1 in papillary thyroid tumors in comparison with normal thyroid tissue. Immunohistochemical analysis revealed that 48% of papillary cancers and 36% of follicular cancers, but none of normal thyroid tissues, were positive for HO-1 expression. Among 129 differentiated thyroid cancers, HO-1 expression was associated with patient age (P = 0.001), TNM stage (P = 0.001), and MACIS score (P = 0.001). There was a strong association between HO-1 and BRAF V600E expression in papillary cancers (P = 0.002).

Conclusion:
Overexpression of HO-1 in a subset of thyroid cancer is associated with tumor aggressiveness and BRAF V600E expression. HO-1 might have a potential role in prognostication and targeted treatment in patients with thyroid cancer.