

## **HOBNAIL VARIANT: A NEW AGGRESSIVE SUBTYPE OF PAPILLARY THYROID CARCINOMA**

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**Background/Purpose:** Papillary thyroid cancer (PTC) is increasing in incidence while mortality is unchanged. Identifying patients with higher risk of recurrence and death is essential. Case reports identify the hobnail variant of a PTC with micropapillary architecture, apocrine features and loss of cellular polarity. Herein, we describe the clinical course, pathological features, and mutational profile of patients at our institution with the aggressive hobnail-variant.

**Methods:** Query into the surgical pathological database from 2007-2012 was performed and clinicopathological data were collected on all patients carrying the diagnosis of hobnail-variant PTC. BRAF<sup>V600E</sup> testing was performed on paraffin-embedded blocks using a single nucleotide extension, PCR-based genotyping modality.

**Results:** Eleven patients with the hobnail variant were identified with an average age of 53 years. Seven patients were Stage III or IV at presentation. Tumors were large (3.9 +/- 1.9 cm), and frequently showed ETE (7/10), LVI (5/10), and cervical lymph node metastasis (9/10). Six patients had concomitant tall-cell features (TCF), and two had foci of anaplastic thyroid carcinoma (ATC). 6/7 patient tumors tested had the BRAF<sup>V600E</sup> mutation, including both patients without coexistent TCF that were tested. At median follow-up of 14 months, three patients had recurred: one with coexistent ATC and TCF, one with TCF, and one without ATC or TCF. One patient died from their disease one year after surgery.

**Discussion & Conclusion:** Hobnail-variant PTC appears to follow an aggressive behavior, with a high incidence of invasion, metastatic disease, and BRAF<sup>V600E</sup> mutation. This histological variant warrants further study and patients with this diagnosis should be observed closely for recurrence.