

## **EARLY DETECTION OF LYMPHNODE METASTASES BY SERUM Tg AND NECK ULTRASONOGRAPHY, AND LONG TERM FOLLOW UP AFTER RADIOIODINE AND/OR SURGICAL TREATMENT IN PATIENTS WITH PAPILLARY OR FOLLICULAR THYROID CANCER.**

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**Background/Purpose:** We evaluated the early detection of metastatic lateral neck lymphnodes (LNL) by thyroglobulin (Tg) and neck ultrasonography (NU) in 534 patients with papillary or follicular differentiated thyroid cancer (DTC), and long-term follow-up after I<sup>131</sup> and/or surgery.

**Methods:** DTC-patients previously treated with near-total thyroidectomy and I<sup>131</sup> ablation of residual tissue, underwent follow-up by Tg, NU, diagnostic and post-therapy whole body scan (WBS), alone or in combination.

**Results:** TSH-stimulated Tg alone had a diagnostic sensitivity of 85% for detecting LNL and a negative predictive value (NPV) of 83%, while NU and diagnostic WBS had a sensitivity of 67% and 80%, and NPV of 66% and 80%, respectively. Combining Tg with NU or diagnostic WBS, sensitivity increased to 98% and 97%, while NPV to 100% and 97%, respectively. Patients with LNL (LNL-p) uptaking radioiodine were treated with I<sup>131</sup>, among them 51% responded after 4 cycles (median 310 mCi, cumulative dose; 6.7 years median follow-up) with “disappearance of uptake at post-therapy WBS and Tg<1 ng/ml” (complete remission, CR), patients not responder had CR with other treatments in only 14% of cases. LNL-p not uptaking or not responder to I<sup>131</sup> (7%) were treated with surgery, and subsequent I<sup>131</sup> readministration with CR in 26% of cases (5.3 years median follow-up).

**Discussion & Conclusion:** Early detection of LNL in DTC-patients may permit a CR by I<sup>131</sup> in 51% after 4 or less I<sup>131</sup> treatments. Patients not responder/not uptaking I<sup>131</sup> can achieve a CR in 26% of cases combining surgery and radioiodine retreatment.