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.

Antonelli, Alessandro[1]; Fallahi, Poupak[1]; Ferrari, Silvia Martina[1]; Di Domenicantonio, Andrea[1]; Mancusi, Caterina[1]; Materazzi, Gabriele[2]; Miccoli, Paolo[2]
[1]Department of Clinical and Experimental Medicine, University of Pisa, Pisa, Italy; [2]Department of Surgical, Medical, Molecular Pathology and Critical Area, University of Pisa, Pisa, Italy

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 $I^{131}$and/or surgery.
Methods: DTC-patients previously treated with near-total thyroidectomy and I^{131} 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^{131}, among them 51% responded after 4 cycles (median 310 mCi, cumulative dose; 6.7 years median follow-up) with "disappearence 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^{131} (7%) were treated with surgery, and subsequent I^{131} 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^{131} in 51% after 4 or less I^{131} treatments. Patients not responder/not uptaking I^{131} can achieve a CR in 26% of cases combining surgery and radioiodine retreatment.