

PRELIMINARY RESULTS OF PERCUTANEOUS LASER ABLATION (PLA) OF METASTATIC LYMPH NODES IN THE NECK FROM PAPILLARY THYROID CARCINOMA.

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Background/Purpose: To assess the feasibility, safety, and effectiveness of PLA for the treatment of metachronous cervical lymph node metastases from papillary thyroid carcinoma.

Methods: 15 patients with previous resection for papillary thyroid carcinoma, presented with elevated serum levels of thyroglobulin (Tg) or anti-thyroglobulin antibodies (TgAb) and 24 metachronous nodal metastases. Tumors were detected by ¹⁸F-DG-PET, B-mode and contrast-enhanced sonography (CEUS) and were treated with percutaneous US-guided interstitial laser ablation (total energy applied 1,200 - 1,800 joules).

Results: PLA was always feasible, and technical success was achieved in all patients. At 6-months, local control was achieved in 11/15 (73%) patients, with 6 (40%) having serum Tg/TgAb normalized (P=0.017 vs baseline). Whereas 20/24 (83%) nodes were negative at ¹⁸F-DG-PET/CT and CEUS (P<0.001 vs baseline), 4 were ¹⁸F-DG-PET/CT-positive (3 also CEUS-positive). One patient with four treated lymph node did not undergo 12 months follow-up due to extensive progression. At 12-month follow-up, local control was achieved in 10/14 (71.4%) patients. 16/20 (80%) nodes were negative at ¹⁸F-DG-PET/CT and CEUS (P<0.001 vs baseline), 4 were ¹⁸F-DG-PET/CT-positive (2 also CEUS-positive). 4/10 (40%) patients had normalization of serum Tg/TgAb (P=0.098 vs baseline). No major complications occurred.

Discussion & Conclusion: Percutaneous US-guided interstitial laser ablation is potentially feasible, safe and effective in the treatment of metachronous cervical nodal metastases from papillary thyroid carcinoma in patients who have undergone previous nodal dissection. Thus, this procedure may reduce or delay a large number of highly invasive neck re-dissections.