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## Long-Term Follow-Up for Differentiated Thyroid Carcinoma Patients: A Reconsideration

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### Dear Editor:

Since recurrence of disease can develop up to 30 years after initial treatment, a long-term follow-up has been advocated for patients with differentiated thyroid cancer (DTC) (1). A detectable thyroglobulin (Tg)—one of the cornerstones in the follow-up of patients with DTC—is considered as disease activity. However, it remains unclear whether long-term follow-up is required for all DTC patients. In an attempt to study the yield of long-term follow-up, we report an extensive follow-up of DTC patients who participated in an earlier study.

In the prior study, we evaluated the additional value of recombinant human thyrotropin-stimulated Tg (rhTSH-Tg) measurement in the detection of disease activity in DTC patients in long-term follow-up (measurement was performed at any point during follow-up, with a median of 10.2 years, interquartile range [IQR] 5.3–16.2 years after DTC diagnosis) (2). All patients underwent total thyroidectomy and radioiodine ablation treatment. In 20/121 initial participating patients, rhTSH-Tg was  $\geq 1$  ng/mL. In three of them, a clinical recurrence was detected after imaging. Here, we describe the results of an additional 10-year follow-up of the remaining 118 patients who provided informed consent for extensive follow-up. TNM and cancer stage were reclassified according to the American Joint Committee on Cancer (AJCC) seventh edition by reassessing pathology reports.

Of these 118 patients, 17 had a rhTSH-Tg  $\geq 1.0$  ng/mL (12 patients with AJCC stage I, one with stage II, and four with stage IV cancer), and 101 patients had a rhTSH-Tg  $< 1$  ng/mL (66 patients with stage I, 10 with stage II, seven with stage III, three with stage IV, and 15 with an unknown stage) in the initial study (Supplementary Table S1; Supplementary Data are available online at [www.liebertpub.com/thy](http://www.liebertpub.com/thy)). The patients visited the outpatient clinic annually for physical examination and TSH and Tg measurement on levothyroxine (Tg-on). Neck ultrasound was performed if indicated. Remission was defined as an undetectable Tg-on ( $< 0.6$  ng/mL) without (clinical) signs of recurrence. One of the 118 patients showed a biochemical recurrence after six years, with a Tg-on of 10 ng/mL, which remained stable in the subsequent four years. Recurrence could not be localized by additional

imaging (consecutive neck ultrasounds and magnetic resonance imaging neck mediastinum). This patient had an initial rhTSH-Tg  $< 1.0$  ng/mL. The remaining 117 patients were in remission after an additional median follow-up of 10.7 years (IQR 9.9–10.7) and a median of 20.9 years (IQR 15.1–27.4) after diagnosis.

Our results show that a detectable rhTSH-Tg in the absence of anatomical localization is not predictive for the development of a recurrence during long-term follow-up of DTC patients, irrespective of the risk classification. Moreover, our extensive follow-up of this well-defined patient cohort yielded a very low number of patients with recurrent disease. This adds arguments to the discussion about the value of long-term follow-up of DTC patients. Benefit of long-term follow-up in terms of identifying patients with recurrent disease is low but may cause harm. Recently it was shown that half of the DTC patients in long-term follow-up have concerns about recurrence, which negatively affect their health-related quality of life (3,4). The long-term follow-up of patients with well-differentiated thyroid cancer—which is in contrast to other malignancies—may add to a long-standing fear for (recurrence of the) malignancy. Our data could support a reconsideration of the time span of follow-up for low- and intermediate-risk DTC patients after adequate treatment.

### References

1. Haugen BR, Alexander EK, Bible KC, Doherty GM, Mandel SJ, Nikiforov YE, Pacini F, Randolph GW, Sawka AM, Schlumberger M, Schuff KG, Sherman SI, Sosa JA, Steward DL, Tuttle RM, Wartofsky L 2016 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: the American Thyroid Association Guidelines Task Force on Thyroid Nodules and Differentiated Thyroid Cancer. *Thyroid* **26**:1–133.
2. Persoon AC, Jager PL, Sluiter WJ, Plukker JT, Wolffenbuttel BH, Links TP 2007 A sensitive Tg assay or rhTSH stimulated Tg: what's the best in the long-term follow-up of patients with differentiated thyroid carcinoma? *PLoS One* **2**:e816.

3. Hedman C, Djarv T, Strang P, Lundgren CI 2016 Determinants of long-term quality of life in patients with differentiated thyroid carcinoma—a population-based cohort study in Sweden. *Acta Oncol* **55**:365–369.
4. Husson O, Haak HR, Buffart LM, Nieuwlaat WA, Oranje WA, Mols F, Kuijpers JL, Coebergh JW, van de Poll-Franse LV 2013 Health-related quality of life and disease specific symptoms in long-term thyroid cancer survivors: a study from the population-based PROFILES registry. *Acta Oncol* **52**:249–258.

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