Functional TSH Receptors, Malignant Melanomas and Subclinical Hypothyroidism

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Dear Sir,

In my view, an additional treatment indication for subclinical hypothyroidism (table 2 in Pearce et al. [1]) might be represented by patients with melanomas, the most aggressive malignancy arising from the skin.

This suggestion is based on the following data:

- Human melanoma cells express functional receptors for TSH [2]; the same group demonstrated that cultured melanoma cells produce cAMP and activate the mitogen-activated protein kinase (MAPK) pathway in response to TSH, indicating that the TSH receptor is functional [2].
- TSH is a growth factor for human melanomas, but not for melanocytes [2]. It is important to note that the concentration of TSH used in the cAMP, MAPK, and proliferation experiments (cultured melanoma cells) was 10 mIU/l, a concentration typical of levels found in patients with early, subclinical hypothyroidism [2].

- Among patients with cutaneous melanomas, the prevalence of hypothyroidism is high (7%), being greater in female patients (13.9%) than in male patients (2.4%) [3].

Unfortunately, clinical trials showing an improvement in the outcome of melanomas after levothyroxine therapy are missing. Until the above-mentioned studies are done, taking into account both the aggressivity of melanomas and the high prevalence of hypothyroidism mentioned above, I would suggest measurement of serum TSH in patients with recently diagnosed melanomas and achievement of partial TSH suppression with levothyroxine therapy in those with subclinical or overt hypothyroidism.

Disclosure Statement

The author declares no conflict of interest relevant to this letter.

References

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