Letter to the Editor

European
Thyroid Journal

Eur Thyroid J 2012;1:208
DOI: 10.1159/000339817

Received: April 30, 2012
Accepted after revision: May 30, 2012
Published online: August 4, 2012

Functional TSH Receptors, Malignant Melanomas and Subclinical Hypothyroidism

Horea Ioan Ursu

C.I. Parhon National Institute of Endocrinology, and Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

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

1 Pearce SH, Vaisman M, Werneau JL: Management of subclinical hypothyroidism: the thyroidologists' view. Eur Thyroid J 2012;1:45–50.
2 Ellerhorst JA, Sendi-Naderi A, Johnson MK, Cooke CP, Dang SM, Diwan AH: Human melanoma cells express functional receptors fo thyroid-stimulating hormone. Endocr Relat Cancer 2006;13:1269–1277.
3 Ellerhorst JA, Cooksley CD, Broemeling L, Johnson MM, Grimm EA: High prevalence of hypothyroidism among patients with cutaneous melanoma. Oncol Rep 2003;10:1317–1320.

KARGER

Fax +41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

2235–0640/12/0013–0208$38.00/0
Accessible online at:
www.karger.com/etj

Assoc. Prof. Horea Ioan Ursu, MD, PhD
C.I. Parhon National Institute of Endocrinology
34–36 Aviatorilor Blvd, sect. 1
RO–011863 Bucharest (Romania)
Tel. +40 742 112 112, E-Mail horeaursu@hotmail.com