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SERUM THYROGLOBULIN LEVEL ALONE IS NOT ENOUGH TO MONITOR PERSISTENCE OR RECURRENCE DISEASE OF DIFFERENTIATED THYROID CARCINOMA

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To monitor persistence or recurrence disease and to evaluate the effectiveness of treatment for differentiated thyroid cancer (DTC), serum thyroglobulin (Tg) is widely accepted as a tumor marker. However, Tg level can be misleading in the certain instances in which levels are low but have recurrence. The aim of this study is to prove that Tg test alone is not conclusive in monitoring persistence or recurrence disease of DTC patients.

A retrospective study was conducted for 40 patients, 36 females and four males, who received I-131 therapy during a 2 years period, 2008-2010, and of an age group of 19 to 78 years. During the follow-up, Tg and anti-Tg antibody (TgAb) were examined after four weeks period of levothyroxin hormone withdrawal. Additionally, bone scintigraphy was performed. Tg level, >2 ng/mL, was regarded as a persistence or recurrence disease, with Tsh levels of >30 uIU/mL.

Serum Tiroglobulin >2ng/mL and negative TgAb were discovered in 6/40 patients, comprising 15% of the total number. Two out of those 6 patients had shown a high uptake at os.sternum and caput of os.femur dextra with bone scintigraphy test; however, negative uptake of I-131 whole body scan after therapy. Tg ≤ 2ng/mL and TgAb negative were discovered in 34/40 patients, comprising 85% of the total number. Four out of the 34 patients had shown an abnormal uptake with bone scintigraphy test. The first had a diffuse uptake at os.parietal bilateral and sacro-iliaca joint dextra under bone scintigraphy test; however, none was discovered at these sites after therapy with I-131 under whole body scan and very light uptake level at thyroid bed. The second patient had also an abnormal uptake at os.costa V dextra with bone scintigraphy; however, shown none after therapy with I-131 under whole body scan. Moreover, a follow-up, six months later, had shown no uptake at that site. The remaining two patients had concurrent results of bone scintigraphy and I-131 whole body scan after therapy.

From the above, we conclude that serum thyroglobulin test cannot be considered as a single indicator in monitoring thyroid cancer; furthermore, TgAb examination and imaging tests, such as bone scintigraphy, should be included to improve diagnostic value in identifying persistence or recurrence disease. All test results should be treated on a case-by-case basis and not as a general guide, where test results cut-off point confirms variation in values.