

CLINICAL ACCURACY OF SERUM THYROGLOBULIN MEASUREMENTS BY RIA Tg (PEG)-INEP ASSAY IN THE POSTOPERATIVE EVALUATION OF PATIENTS WITH DIFFERENTIATED THYROID CARCINOMA

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BACKGROUND: Thyroglobulin (Tg) is a glycoprotein specifically synthesized by follicular thyroid cells. After total thyroidectomy and remnant ¹³¹I ablation serum Tg is a specific and sensitive marker for the presence of thyroid cancer tissue. Its measurement is fundamental in the follow-up of differentiated thyroid carcinoma (DTC) patients.

AIM: To evaluate the diagnostic significance of serum Tg measurements, performed by RIA Tg (PEG)-INEP assay, in patients with DTC after surgical and ¹³¹I treatments.

MATERIAL AND METHODS: Serum Tg was measured in 48 patients with DTC. According to the results of clinical evaluation and comprehensive imaging with different modalities (¹³¹I-whole body scintigraphy, thyroid ultrasound examination, computed tomography or magnetic resonance imaging) patients were divided into following groups: patients without disease (n = 36 i.e. 75%) and patients with recurrent disease (n = 12 i.e. 25%). Receiver Operating Characteristic (ROC) analysis was performed using SPSS programme, version 10.0.

RESULTS: ROC curve showed cut off value of Tg to be 5.5 µg/L. Tg levels above this value were found in 11 out of 12 patients with recurrent disease (sensitivity = 91.7%), while 34 out of 36 patients with no disease had Tg levels below the cut off point (specificity = 93.1%). Area under the curve (AUC) for Tg measurements by RIA Tg (PEG)-INEP assay was 0.940 and thus showed, by Swets's criteria, high accuracy.

CONCLUSION: The obtained results showed that serum Tg levels measured by RIA Tg (PEG)-INEP assay have high sensitivity, specificity and clinical accuracy in follow-up of patients with differentiated thyroid carcinoma.