

Correlation of Thyroglobulin Concentrations Measured by Radioimmunoassay and Immunoradiometric Assay and the Influence of Thyroglobulin Antibody

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Abstract: There are a large number of commercial diagnostic assays for measuring thyroglobulin (Tg) concentration in human serum. The assay principle, as well as the potential presence of antithyroglobulin autoantibody (TgAb) in patient's serum, could influence the measured amount of Tg. Our objective was to determine the concentration of Tg by radioimmunoassay and immunoradiometric assay, to compare the values obtained and to investigate the influence of TgAbs on those results. Analysis of serum specimens (n = 58) showed close correlation between the investigated assays, regardless of the presence of TgAb in some samples. The mean value for Tg concentration, determined by radioimmunoassay, was 25% lower than that obtained by immunoradiometric assay. However, this ratio was not uniform for the whole population because the differences were more prominent for high values of Tg. The significant difference between these two methods was confirmed by Student's t-test, which indicated that patients must be monitored in continuity only by one selected method.

Keywords: Antithyroglobulin autoantibodies, Immunoradiometric assay, Radioimmunoassay, Thyroglobulin

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