

Evaluation and Association of Thyroid Function Tests with Liver Function Parameters LDL and LDH Level Before and after I131 Therapy

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Abstract : Background and objectives: The pathogenesis of liver function abnormalities and cardiac dysfunction in hyperthyroid patients after I131 treatment is still unclear. This study aimed to determine the effects of radioiodine I131 on liver function parameters, lactate dehydrogenase (LDH) and low-density lipoproteins (LDL) before and after I131 therapy hyperthyroidism patients. Material & Methods: A total of 52 patients of hyperthyroidism recommended for I131 were involved in this study with ages ranging from 12-65 years (mean age=38.6±14.8 & BMI=11.5±3.7). The significance of the differences between the results of 1st, 2nd and 3rd-time serum analysis was assessed by unpaired student's t-test. Associations between the parameters were assessed by Spearman correlation analysis. Results: Significant variations were observed for thyroid profile free FT3 (p=0.04), FT4 (p=0.01), TSH (p=0.005) during the follow-up treatment. Before taking I131 (serum analyzed at 1st time), negative correlation of FT3 with AST (r=-0.458, p=0.032) and LDL (r=-0.454, p=0.039) were observed. During 2nd time (after stopping carbimazole), no correlation was assessed. Two months after the administration of I131 drops, a significant negative association of FT3 (r=-0.62, p=0.04) and FT4 (r=-0.61, p=0.02) with ALB were observed. FT3 (r=-0.82, p=0.00) & FT4 (r=-0.71, p=0.00) also showed negative correlation with LDL after I131 therapy. Whereas TSH showed significant positive association with ALB (r=0.61, p=0.01) and LDL (r=0.70, p=0.00) respectively. Conclusion: Current findings suggested that the association of TFTs with biochemical parameters in patients with goiter recommended for iodine therapy is an important diagnostic and therapeutic tool. The significant changes increased in transaminases and low-density lipoprotein levels after taking I131 drops are alarming signs for heart and liver function abnormalities and warrant physicians' attention on an urgent basis.

Keywords : hyperthyroidism, carbimazole, radioiodine I131, liver functions, low-density lipoprotein

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