Abnormalities of liver function test in hyperthyroidism

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Introduction: Liver function tests (LFT) abnormalities are common findings in hyperthyroidism less paid attention in clinical practice. The reported prevalence of abnormal LFT varies from 5 to 67% in different studies. The most common is elevation of ALP. These abnormalities may induce disturbance in diagnosis. In this reason, we have examined the records of the hyperthyroid patients were examined in our clinics to determine the prevalence and possible significance of abnormal LFT in hyperthyroid patients.

Materials and Methods: A retrospective survey of 16 patients (52 males, 63 females) having mean age of 34 years (range 11-57 years) and coded diagnosis of graves disease, thyrotoxicosis, toxic multinodular goiter or hyperthyroidism referred to Semnan Fatemiyeh general hospital from 1991 to 1999, was performed. All of the patients had alkaline phosphatase (ALP), alanine aminotransferase (ALT), aspartate aminotransferase (AST), total bilirubin (TBI) and direct bilirubin (DBI) determination prior to initiation of therapy. In suspected cases, workup for exclusion of other systemic disease was done. 16 volunteers (52 males, 63 females) having mean age of 34 years (range 21-57 years) were chosen as matched control group, and none of them having history of any diseases.

Results: Thirty two of 16 patients (82%) had at least one biochemical LFT abnormality while ALT was most common which elevated in 17 patients (82%) (P<0.001). 10 patients (62%) had only one, 5 (25%) had two and 2 patients (12%) had three biochemical LFT abnormalities. AST and ALP increased in 11 (69%) and 13 (81%) cases; (P<0.01), respectively. TBL and DBL increased in 3 (20%) cases(0%), these increases were not statistically significant. The prevalence of abnormal LFT was nearly the same in both sex, except for AST which increased more commonly in males than in females (33% versus 0%).

Conclusion: The results suggest that abnormal LFT is common in hyperthyroidism, especially, ALT elevation, that can cause diagnostic confusion. Therefore, hypertyroidism should be kept in mind in any patient with unexplained abnormal LFT.

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