High Prevalence Of Subclinical Thyroid Dysfunction and High Cholesterol

Prevalence of Thyroid Dysfunction and Its Effect on Serum Lipid Profiles in a Murzok, Libya Population

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ABSTRACT. The objective of this study was to assess the prevalence of thyroid dysfunction and its correlation with serum hyperlipidemia among the adult population of Murzok City, Libya. Blood samples were collected randomly from 356 subjects (179 male and 177 female) in the age range of 20-to-65 years. The blood was analyzed for the levels of total T3, total T4, free T4 and TSH by electrochemiluminescence immunoassay (ECLIA). Lipid levels of total cholesterol, triacylglycerol (TAG), LDL, and HDL were measured using the enzymatic colorimetric method.

The prevalence of thyroid dysfunction types was the following: overt hyperthyroidism (0.84%), subclinical hyperthyroidism (0.84%), overt hypothyroidism (1.12%), and subclinical hypothyroidism (6.18%). Also, thyroid dysfunction was more common in females (0.56%,
0.84%, 0.84%, and 4.21%) than in males (0.28%, 0.00%, 0.28%, and 1.97%).We found a higher prevalence of subclinical hypothyroidism (27%) among the subjects with hypercholesterolemia. We also found a significant negative correlation between subjects with normal T3 and hypercholesterolemia ($P<0.05$), and a significant positive correlation between subjects with 4 high T and HDL ($P<0.05$).