

Association between Subclinical Hypothyroidism (SCH) and the risk of Coronary Heart Disease (CHD)

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Background and Introduction: Thyroid stimulating hormone (TSH) may represent a novel cardiac risk factor

We studied 60 CHD patients admitted to critical care department of Cairo university. Thirty other patients free from CHD served as control group (non-CHD group). SCH As high TSH with normal thyroxine level (free T4) were measured in both groups and both groups were compared to each other

Results: Patients in group I has a significantly higher age than group II with a p value of 0.02.as regards gender no significant difference s were detected between the two groups p value 0.353. Blood glucose level, blood urea, blood cholesterol level positive criteria of the presence of metabolic syndrome all show a statistically significant difference in group I when compared to group II (p value <0.05).Other risk factors like tobaccos smoking, positive family history for CHD, lack of weekly physical activity elevated mean arterial blood pressure or history of hypertension and increased body mass index did not show any statistically significant difference between the two groups.

Free T4 level did not show any significant differences when the two groups were compared

Table (1): **patients ‘characteristics as regards ECG findings and metabolic syndrome in each group**

Overall sample	Overall sample	Group I	Group II
±ve ECG findings for IHD	78 (87%)	60 (100%)	18 *60%)
-ve ECG findings	12 (13%)	0 (0%)	12 (40%)
P value	0.000		
±ve criteria of metabolic syndrome	30 (33%)	26 (43%)	4 (13%)
-ve criteria of metabolic syndrome	60 (67%)	34 (57%)	26 (87%)
P value	0.004		

Table (2) shows the confounding variables for the study groups

	Case (n= 6)	Controls (n= 30)	P value
Age years	55.18±12.303	48.73±13.014	0.024*
BMI Kg/m²	29.57±5.192	28.47±4.674	0.331
B. glucose mg%	207.55±74.186	167±46.398	0.002*
B. urea mg%	37.65±12.658	28.97±9.152	0.001*
T. Cholesterol mg %	246.67±99.348	199.67±47.593	0.003*
FT4 ng/L (N=0.8 - 1.8 ng/L)	1.22±0.2892	1.117±0.2245	0.009
TSH U/ml (N=0.3 - 5.0 U/mL)	3.462±2.3536	3.392±1.4806	0.883
T3 pg/mL (normal=2.3- 4.2 pg/mL)	2.094±0.971	2.73±0.7221	0.002*

Conclusion: There was no increase in prevalence of SCH among CHD patients. One cannot recommend thyroxine treatment for SCH patients to prevent delay or reverse the process of atherosclerosis of the coronary arteries.