



Serum total sialic acid levels in overt and subclinical hypothyroid patients and its relationship with atherosclerotic risk factors

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OBJECTIVE

Serum total sialic acid(SA) concentration is assessed as an up to date risk indicator of atherosclerosis and cardiovascular diseases. It was aimed to investigate about how SA levels are effected in overt or subclinical hypothyroidism(SH) and how it's associated with other atherosclerosis risk factors because there is no study about these topics, though SA is intensively studied in recent years

METHODS

Sixty newly diagnosed treatment-naive hypothyroid patients(35 subclinical and 25 overt) and 30 euthyroid individuals were included in the study. Fasting blood samples were taken and SA, serum homocystein and hsCRP was measured in addition to rutin biochemical measurements and carotid artery intima media thickness(CIMT) measurements were performed.

Table 1. Demographic features and biochemical parameters of patients and controls

	Control (n=30)	Hypothyroid (n=60)	p value
Sex (m/f)	5/25	10/50	NS
Age(year)	32.5±7.5	33.8±9.8	NS
BMI	23.7±3.9	27.1±5.4	0,001
WCR	0.83±0.07	0.88±0.09	0,02
CIMT (mm)	0.58±0.06	0.62±0.12	0,046
Total- K (mg/dL)	176.5±31.4	203.7±50.6	0,003
HDL-K (mg/dL)	52.4±10.4	51.2±12.2	NS
LDL-K (mg/dL)	107.6±25.9	128.5±41.2	0,004
TSH (µIU/mL)	1.5±0.7	40.4±74.5	<0,001
MPV (fL)	8.9±1	8.6±1.3	NS
Sialic asit (µg/mL)	42±15.7	44.5±19.1	NS
hs CRP(mg/dL)	0.12±0.16	0.2±0.24	0,07
Homosist(µmol/L)	14.7±6.3	16.6±13.3	NS

RESULTS

Diastolic blood pressure, CIMT, Total-C, LDL-C, TG levels were significantly increased in patients. Other atherogenesis related measurements such as systolic blood pressure, uric acid, hsCRP and homocystein levels were also increased in patients, but not statistically significant. Serum total SA levels were higher in hypothyroid patients compared to controls but the difference was not statistically significant. In patients' group positive correlation between CIMT and SA was determined as it was between SA and uric acid.

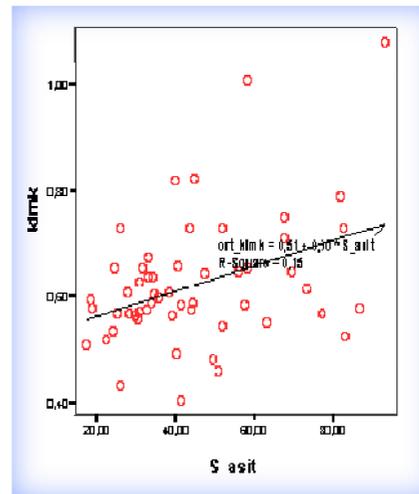


Figure 1. Correlation between SA and CIMT in patients

DISCUSSION

Interesting result of our study is the positive relationship between SA and CIMT which is revealed for the first time. The existence of correlation between SA and some indicators like CIMT, hsCRP and uric acid in hypothyroid group suggests that it can be an atherogenesis indicator in hypothyroid patients.

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