

**Title:** The correlation between clinical syntax score II and carotid intima-media thickness in patients with stable coronary artery disease

**Category:** Acute Coronary Syndromes

### **Abstract**

**Introduction:** Syntax score II (SSII) is an updated of the established Syntax score that used clinical variables such as age, sex, creatinine clearance, left ventricular ejection fraction, chronic obstructive pulmonary disease, and peripheral arterial disease. Also, it is now already proven that SSII is more powerful predictive tool than SS. Carotid intima-media thickness (CIMT) is a widely used non-invasive evidence for subclinical or early atherosclerosis and it was proved to be an independent predictor for cardiovascular events. Most of the previously published articles studied the association between the CIMT with old cardiovascular scoring systems such as Syntax score I and Gensini score with a debatable data about their correlation.

**Purpose:** In this study, we aim to determine the relationship between the new clinical syntax score II (SSII) and the CIMT and also to determine any independent risk factors associated with both in patients with stable coronary artery disease (CAD).

**Methods:** A prospective analysis of the data of 155 patients undergoing elective coronary angiography (CA) on top of chronic stable angina with thoughtful history taking, clinical examination, electrocardiography, echocardiography, CIMT measurement and syntax score II (SSII) calculation elective CA. Patients with history of acute coronary syndrome (ACS), previous coronary revascularization either by percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG) and pervious cerebrovascular stroke will be excluded from the study.

**Results:** our studied population were 155 patients with a mean age of  $58.25 \pm 16.46$  years, 79 patients (50.96%) were males. The mean SSII score was  $10.23 \pm 11.36$  and mean CIMT was  $0.85 \pm 0.24$ . The correlation between SSII and CIMT using Spearman correlation showed a strong correlation between SSII score and CIMT with correlation coefficient  $r = 0.752$ .

**Conclusion:** In a prospective analysis to study the correlation between SSII and CIMT in stable CAD patients undergoing elective CA, we concluded that there was a strong positive correlation between SSII and CIMT.

**Table 1: Baseline demographic, laboratory and SYNTAX II/CIMT data (n=155)**

<b>Total Eligible</b>		<b>n = 155</b>
<b>Age (years)</b>		<b>58.25 (±16.46)</b>
<b>Sex (males)</b>		<b>79 (50.96%)</b>
<b>Risk Factors</b>	<b>Hypertension</b>	<b>108 (69.68%)</b>
	<b>Diabetes Mellitus</b>	<b>52 (33.55%)</b>
	<b>Smoking</b>	<b>67 (43.23%)</b>
	<b>Dyslipidemia</b>	<b>10 (6.45%)</b>
	<b>Chronic kidney disease</b>	<b>9 (5.81 %)</b>
	<b>Family History</b>	<b>4 (2.58%)</b>
	<b>Peripheral arterial disease</b>	<b>1 (0.65%)</b>
	<b>Thrombophilia</b>	<b>0 (0%)</b>
<b>Laboratory data</b>	<b>Hemoglobin (g/dl)</b>	<b>11.7 (±1.83)</b>
	<b>White cell count (109 /l)</b>	<b>8.5 (±2.2)</b>
	<b>Platelet count (103 /l)</b>	<b>264 (±43)</b>
	<b>Creatinine (mg/dl)</b>	<b>1.05 (±0.23)</b>
	<b>INR</b>	<b>1.03 (±0.1)</b>
<b>SYNTAX &amp; CIMT</b>	<b>SYNTAX II</b>	<b>10.23 (±11.36)</b>
	<b>CIMT</b>	<b>0.85 (±0.24)</b>

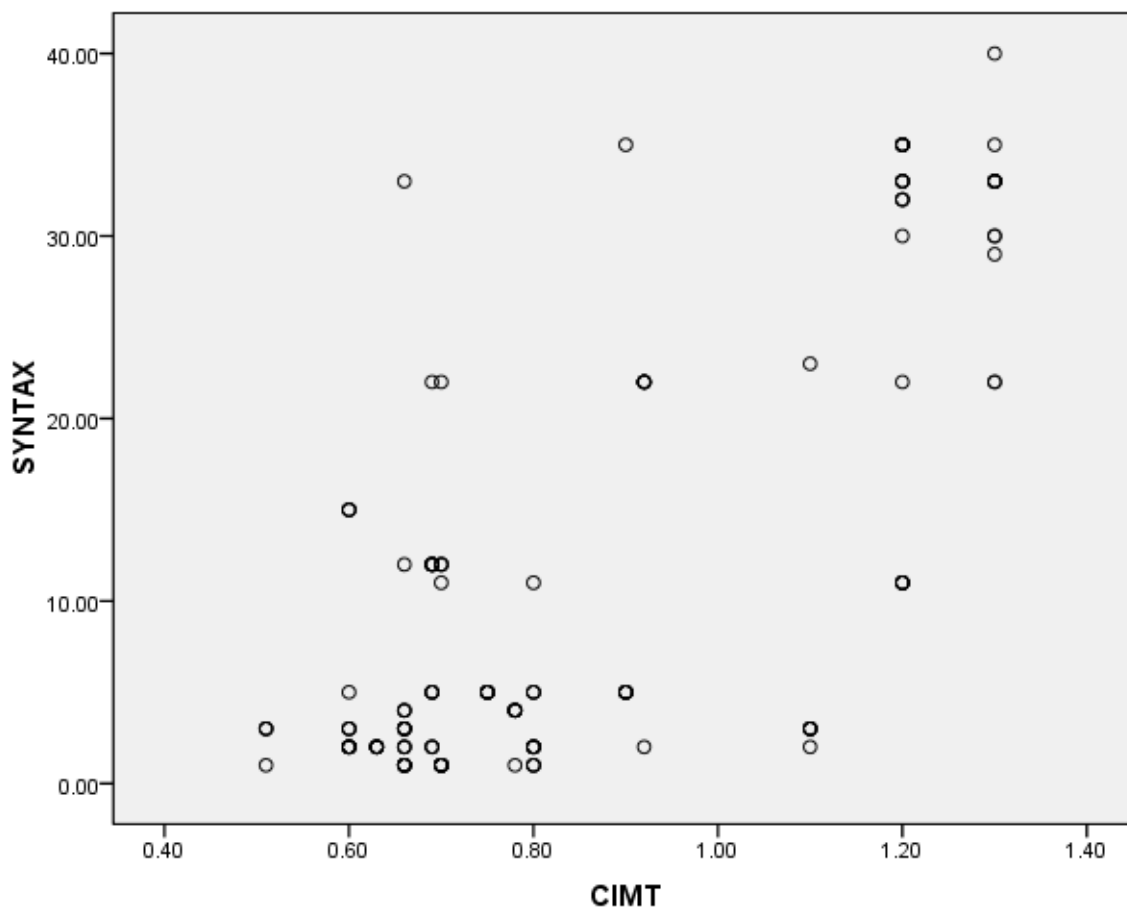
Data is shown in numbers (%) or numbers (± standard deviation)

### Correlations

		CIMT	SYNTAX
CIMT	Pearson Correlation	1	.752**
	Sig. (2-tailed)		.000
	N	155	155
SYNTAX	Pearson Correlation	.752**	1
	Sig. (2-tailed)	.000	
	N	155	155

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**$r = 0.752$**



**Figure 1. Correlation between the SSII and CIMT**