

# Neck Circumference and Leg Length as Surrogate Markers of Coronary Artery Disease - Simplifying Cardiac Risk Stratification

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## ABSTRACT

**Introduction:** Coronary angiography is the gold standard for quantification of coronary atherosclerosis. But, being invasive, it has inherent complications. Hence, we examined the accuracy of prediction of coronary angiography using simple anthropometric indices.

**Aim:** To identify a patient friendly method to predict coronary artery disease using simple anthropometric parameters, by testing their correlation with coronary artery disease severity scoring system.

**Materials and Methods:** We conducted a cross-sectional study on patients undergoing elective coronary angiography. A total of 48 patients were included in the study. Neck circumference and leg length of the patients were noted. The severity of coronary atherosclerosis was quantified using Jenkin's scoring system.

Mean and standard deviation for each continuous variable was calculated. The correlation between Jenkins' score, neck circumference and leg length was tested. The data analysis was done using IBM-SPSS software.

**Results:** Mean leg length among the study population was 88.70 cm ( $\pm 2.51$  cm) among males, 79.04 cm ( $\pm 4.32$  cm) among females and 83.66 cm ( $\pm 3.26$  cm) overall. Mean neck circumference was 36.87 cm ( $\pm 4.37$  cm) among males, 36.04 cm ( $\pm 3.65$  cm) among females and 36.44 cm ( $\pm 3.99$  cm) when combined together. There was no correlation of Jenkin's scores with leg length. But, there was significant correlation between Jenkin's scores and neck circumference.

**Conclusion:** Neck circumference can be used as a simple and effective tool and is better than leg length for risk stratification of patients with coronary heart disease.

**Keywords:** Anthropometric parameters, Coronary artery narrowing, Jenkin's score