

# Biometric analysis of healthy coronary arteries in a Chilean population: An angiographic study

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## Abstract

Thorough knowledge and understanding of coronary arteries and their anatomy is essential when performing cardiac surgery such as a coronary bypass. Coronary angiography is a minimally invasive method used to evaluate the anatomy and obtain different measurements of the coronary arteries. This study was designed to evaluate the endoluminal diameter, trunk length and anatomical distribution of coronary arteries in Chilean subjects without apparent angiographic lesions. Measurements were carried out by 3 trained examiners using Leonardo® software program in 238 Chilean subjects of both sexes with an age-range of 45 to 78 years. Ostium and the distal luminal segments diameters were measured, as well as trunk length of both right and left coronary arteries. Ostium of the anterior interventricular artery, dominance and tortuosity were also registered. In the right coronary artery, the diameters ( $3.8 \pm 1.2$  mm and  $3.6 \pm 1.0$  mm) differed according to sex and dominance, and the length ( $35.2 \pm 12.5$  mm) differed according to age. In the left coronary artery, the diameters ( $4.9 \pm 1.1$  mm and  $4.7 \pm 1.0$  mm) were greater in males than in females. The left coronary artery showed greater diameters and length than the right coronary artery. The prevalence of right arterial dominance was 88.0 %. Patients with right arterial dominance presented greater distal caliber in the right coronary artery than those with left arterial dominance ( $p < 0.05$ ), especially in older patients. Significant arterial tortuosity was observed in seven subjects.

## Author keywords

Angiography

Biometry

Chilean population

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