

Abstract

Luminal diameter and percent stenosis of left anterior descending coronary artery are considered indicators of early atherosclerosis, arterial occlusion, myocardial infarction, and are important in quantitative estimation of coronary disease severity. These parameters show ethnic variation but there are hardly any data from African populations. This study examined luminal diameter and percent stenosis of 108 proximal left anterior descending coronary arteries. The specimens were obtained from adult individuals [72 males, 36 females; mean age 34.8 years (range 18 – 72 years)] who had died of non-cardiovascular causes. The specimens were processed for routine paraffin embedding and sectioning. Seven-micron thick sections were stained with Mason's trichrome and examined with light microscope. Luminal diameter and percent stenosis were determined on the microscopic sections using multiscan software. The dimensions were corrected for heart weight and analyzed for age and gender differences. The mean luminal diameter was 2.72 ± 0.018 mm, with insignificant age and gender difference after correcting from heart weight. It increased with number of branches of left coronary artery. Mean percent stenosis was 34.6%. Percent stenosis of over 50% was present in 25% of individuals, all males. Of these, 8% were under 20 years. There was visible and focal intimal thickening. The mean luminal diameter is comparable to those reported from Caucasian and Asian populations, and there is significant percent stenosis in a substantial number of individuals. These findings suggest comparable vulnerability to atherosclerotic occlusion of left anterior descending