Reference values of left ventricular diastolic function accessed by conventional and Doppler echocardiography in healthy Angolans: effect of age and gender

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Abstract

Introduction: Studies about the reference values of the conventional and tissue Doppler echocardiography in African populations are limited. **Objectives:** The aim of this study is to evaluate the effect of aging and gender in left ventricular diastolic function assessed by conventional and tissue Doppler echocardiography in healthy Angolans. **Methods:** Cross-sectional study performed involving healthy participants aged between 18 and 85 years, attending in a diagnostic center in Luanda, Angola. Two-dimensional transthoracic echocardiography and Doppler study were performed according to the Guidelines of the American Society of Echocardiography and the European Association of Cardiovascular Imaging. **Results:** A total of 103 men (47.5%) (mean age: $39,5 \pm 10,8$) and 114 women (52,5%) (mean age: $43,0 \pm 12,5$ years) were included. Compared to men, women were older ($p=0,025$) and showed significantly smaller body surface area ($p<0,001$). Mitral E velocity, and E/e' ratio were significantly higher in women compared to men. While, DT of mitral E velocity was longer in men compared to women ($p=0,041$), E wave velocity and E/A ratio show a negative significant correlation with increasing age ($r -0,33$; $P [?] 0.001$ and $r -0,48$; $P [?] 0.001$, respectively). Conversely, A wave velocity shows a significant positive correlation with age ($r 0,47$; $P < 0.001$). Average e' wave velocity shows a significant negative correlation with aging ($r -0,40$; $P [?] 0.0001$). **Conclusions:** In healthy Angolan adult population, the parameters of left ventricular diastolic function deteriorated with age reflecting a normal aging process. This must be taken into account when assessing diastolic function at different age's categories.

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