

# Dilatation and Rapid Rate of Expansion of the Ascending Aorta in Vietnamese Population

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**6UW\_[fc i bX.** The thoracic aorta expands slowly with age; standard rate of expansion of ascending aorta is about 0.1 cm per 10 years. A diameter of an ascending aortic greater than 3.7 cm is considered to indicate dilatation. Though dilatation usually occurs with advancing age, there is no fixed upper limit of normal diameter of the ascending aorta that corresponds with age. Likewise, the rate of expansion is not constant for all individuals at a particular age. Expansion rate is influenced by various factors like smoking, obesity, and physical stature. Dilatation and rate of expansion ascending aorta specific to ethnicity has not been studied or documented.

**CVYWh]jYg.** This study explores the variation in the diameter of the ascending aorta, the rate of dilatation with age in the Vietnamese population, and compares these results to other ethnic groups.

**AYh\cXg.** This is an observational study using an institutional database. The study consists of one hundred and fifty patients divided into two groups; group one included seventy five patients of Vietnamese origin and group two included seventy five patients from Hispanic, Asian (excluding Vietnamese), Caucasian and African American ethnicities. Based on the age, patients in both the groups were further divided into three sub-groups: 45-60 years, 61-75 years and 75+ years; initial and subsequent follow-up of Trans-Thoracic Echocardiography (TTE) results are compared to visualize the difference in diameter of the ascending aorta in a specific age group and the rate of dilatation. Also, the institutional database was reviewed to investigate the associated risk factors of dilatation in patients of both the groups.

**FYgi`hg.** The mean diameter (centimeter) of the ascending aorta in group one patients was higher than group two patients for age groups above sixty years. The mean diameter of an ascending aorta for both groups respectively is  $3.47 \pm 0.34$  and  $3.17 \pm 0.34$  (61-75 years,  $p < 0.005$ ), and  $3.77 \pm 0.31$  and  $3.24 \pm 0.33$  (75+ years,  $p < 0.001$ ). Medial annual growth rate of dilatation (centimeter/year) was almost double in patients of group one when compared to patients in group two, listed here respectively: 0.025 and 0.012 (less than 60 years,  $p < 0.05$ ), and 0.1 and 0.05 (above 75 years,  $p < 0.05$ ).

**7cbW`ig]cb.** Patients of Vietnamese origin have an increased diameter of the ascending aorta along with a rapid rate of expansion of ascending aorta when compared to other ethnic populations, when age is held constant. This trend of a dilated ascending aorta and its rapid expansion rate is contradictory for a generally petite stature of the Vietnamese population.



approximately 5 cm in size and has two distinct segments, an upper segment known as tubular ascending aorta and lower segment, known as aortic root, which is the usual site for dilatation [7].