

Measuring the Diameter of Abdominal Aorta Using Contrast Enhanced Computed Tomography in Relation to Age and Sex

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This study is a descriptive type cross sectional study. This is aimed at evaluating physiological variation of the abdominal aortic diameter. Objectives of this study are to measure the abdominal aortic diameter of the study group in relation to age and sex and to find out the influence of the age and sex on the diameter of the abdominal aorta. This is a retrospective study which was conducted on 55 patients (25 women, 30 men) who underwent abdominal contrast enhanced Computed Tomography (CT) scans for various abdominal pathologies. Computer based entries of the patients' records were used to obtain data for the study. The internal anteroposterior and transverse diameters of the abdominal aorta were measured at the suprarenal and infrarenal levels. Mean age of the study group was 54.58 ± 16.75 years. Mean anteroposterior aortic diameter was 16.1 ± 2.3 mm while mean transverse aortic diameter was 16.6 ± 2.2 mm at the suprarenal level. Mean anteroposterior aortic diameter is 14.8 ± 1.9 mm and mean transverse aortic diameter is 14.8 ± 1.8 mm at the infrarenal level. Independent t test was used to compare the mean value of the abdominal aortic diameter at the suprarenal and infrarenal levels between males and females. Mean anteroposterior suprarenal aortic diameter in males was 17.1 ± 2.1 mm while it was 15 ± 2.2 mm in females ($p < 0.001$). Mean transverse suprarenal aortic diameter in males was 17.7 ± 2 mm while it was 15.4 ± 2 mm in females ($p < 0.001$). According to the Pearson correlation coefficient, abdominal aortic diameter and the age was found to have significant correlation at 0.01 level (2-tailed). Abdominal aortic diameter has a significant correlation with age. Females have lesser abdominal aortic diameter than males. This pilot study can be improved by expanding into a multicenter study involving larger number of subjects.

Keywords: Abdominal aortic diameter, Abdominal CT, Age, Sex