

Aortic Arch Aneurysm Represented by a 3D Printing and Simulation of Fluid Movement through It

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Degeneration of the human aorta can occur in the thoracic, abdominal and arch region. Rarely this kind of disease happen in the arch region of aorta closer to the semilunar valve. By definition, an aneurysm is a localized dilation of an artery with a diameter at least 50% greater than normal size. The main objective of the study is to recreate the 3D model of the heart with real aortic arch aneurysm and successive simulation of fluid movement in it and demonstrate a difficulty in the conductivity of the vessel.

Successful testing of a 3D model based on real data of aneurism and achieved with great precision through 3D printing. A satisfactory result has been obtained demonstrating the degree of functional predicament of the aorta in this rare type of aneurysm.

Key words: aortic arch aneurysm, 3D print models, heart anatomy, vascular disorders