International Scholars Journals

International Journal of Anatomy and Physiology ISSN 2326-7275 Vol. 10 (2), p. 001, August, 2021.
Available online at www.internationalscholarsjournals.com 

*Editorial*

# Editorial on heart valves

**R. O. Arise***

Department of Biochemistry, Ilorin University, Kwara, Nigeria.

Accepted 16 August, 2021

## EDITORIAL NOTE

Clinical electrophysiologists must have a thorough understanding of the 3-dimensional architecture of the living heart in order to make correct diagnoses and provide safe interventional treatment. Because three-dimensional images projected on a two-dimensional surface are prone to distortion and cannot give proper depth perception, they are not considered true three-dimensional representations. Due to their limited user-friendliness and high costs, 3-dimensional visualisation techniques such as 3-dimensional printing, 3-dimensional projectors, 3-dimensional monitors, and virtual reality are currently unavailable. The middle mediastinum houses the heart, which is encased in fibrous pericardium. This article covers the fundamentals of exterior and internal cardiac anatomy, as well as the components of cardiac functional anatomy that are most relevant to clinical cardiac exams. The basic function of cardiac valves is to provide unidirectional blood flow. Pathologies resulting from malformation and dysfunction of these intricate structures are potentially deadly. The formation, anatomy, and histology of the four heart valves will be discussed in this chapter. These four heart valves are divided into two atrioventricular valves and two semilunar valves, yet each valve is distinct. When the valve leaflets are subjected to mechanical loading, the two types of valves differ in how they are sustained. The AV valves use a tension apparatus, which is made up of fibrocartilage-containing chordae tendinous heart strings and papillary muscles, which are extensions of the ventricular myocardium. The semilunar or ventriculoarterial valve leaflets, on the other hand, are self-supporting, with three leaflets that collapse into thicker edges when they close. Despite their differences, adult heart valves appear to evolve in the same manner. The patient's normal heart is the size of a closed fist. The venae cavae drain into the right atrium, which is home to the fossa ovalis and the coronary sinus as well as the anterior cardiac vein. Through the tricuspid valve, the atrium flows into the right ventricle. The papillary muscles, bearing the chordae tendinae linked to the open borders of the tricuspid valve, project from some of the ventricles' trabeculated walls (trabeculae carneae). cardiac embryology include how the embryonic heart can function without one-way valves or a conduction system, and why the embryonic atrium and ventricle work essentially the same as they do in adults. Because of the recent discovery of molecular cell markers, their application by immunohistochemistry and/or *in situ* hybridization, and the development of powerful computer-aided three-dimensional reconstruction programmes, these concerns can now be answered. In eight patients with isolated congenital total heart block, the architecture of the conduction system was investigated. Seven hearts from children born to women who had anti-Ro antibodies showed atrial-axis discontinuity. Fibrous and adipose tissue occupied the atrioventricular node's expected location. The conduction system of the heart of the sole infant whose maternal blood was anti-Ro negative displayed non ventricular discontinuity. coronary arteries were investigated in 84 specimens of common arterial trunk. For comparison, fourteen normal hearts were used. The location and level of coronary artery orifices as well as the connection of the truncal root to the area of fibrous continuity with the mitral valve change from those in normal hearts in hearts with common arterial trunk.

*Corresponding author. R. O. Arise*, E-mail: arisedshina@yahoo.com