# Fibrilación auricular y Sir Thomas Lewis

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Thomas Lewis publishes a paper in the BMJ detailing his careful clinical and electrocardiographic observations of atrial fibrillation.
Lewis describes how he and a colleague, Dr Woordruff a vet, identified the condition in horses and, at a later date, witnessed the fibrillating heart of a horse on Bulford Plain. "The chest was opened while the heart was still beating, and I obtained, as did those with me, a clear view of a fibrillating auricle, brought to this state, not by experimental interference, but by disease." Lewis T. A Lecture ON THE EVIDENCES OF AURICULAR FIBRILLATION, TREATED HISTORICALLY: Delivered at University College Hospital. Br Med J 1912;1:57-60.

RCA arises from the anterior sinus of Valsalva and courses through the right atrioventricular groove between the right atrium and right ventricle to the inferior part of the septum. The RCA presents a wide morphological expression especially for its length, size, and number of branches, emergence sites and irrigated territories.
The RCA has different architectural expressions that classified it as long or short. In the long configuration and after taking a trajectory into the atrioventricular groove it is divided, near or at the level of the Crux cordis, in posterior interventricular artery (PIA) and left retroventricular artery. The short configuration of RCA ends as posterior branch of the RV in 7-20%.
An additional irrigated territory supply is given by two additional arteries when is necessary: LCx artery branches and the anterior interventricular artery (AIA) coming from the sterno-costal surface. Great variability has been reported. It is frequently observed at the inferior and apex segment of the posterior interventricular groove. In a minor incidence is noted in the superior and middle segments of this groove.
Several RCA branches have anatomical and clinical importance:

1.Right branch of the arterious conus (RBAC)
2.Sinoatrial node artery (SNA)
3.Right marginal artery (RMA)
4.Right diagonal posterior artery (RDPA)
5.Atrioventricular node artery (ANA).

Each of these arteries has special characteristics that make them different. A branch of the RCA, RBAC is considered classic and can result in nearly one-third of the aorta (third coronary). In these cases larger caliber and length is observed irrigating upper and middle anterior surface of the right ventricle (1). SNA is part of the atrial arteries' group usually arising from the anterior segments of both coronary arteries, although is more frequent emerging from RCA in 55%-73% (2). RMA originates before or at the level of the sharp edge of the heart and can reach the heart apex. This determines the branches number and size reduction for the right ventricle anterior surface supply (3).
The RDPA (infrequently pattern), originates from the RCA near of the acute margin of the heart and adopt an oblique path on the posterior wall of the right ventricle to reach the middle third of posterior interventricular groove contributing to the irrigation of the lower segment of the diaphragmatic heart face (4). The branch of the ANA start in the "inverted U" segment of the RCA located in the crux cordis (73%-85%) and the rest coming from the terminal branch of the CxA (5).

The importance of the cardiac irrigation variability in special the RCA is supported by several clinical and pathological scenarios: hemodynamic procedures, cardiac surgery in heart trauma and arrhythmias from coronary occlusive disease management (6). Expression of the RCA has been reported with different methods: classical dissection, corrosion injection techniques and imagenology studies (7). The anatomical features of these arteries in a fresh cadaveric material sample. Equally, additional interesting information is the correlation of the SNA branch origin and the coronary dominance type.

## References:


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