



A CASE REPORT OF ANOMALOUS ORIGIN OF LEFT CORONARY ARTERY BRANCHES WITH CLINICAL SIGNIFICANCE

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ABSTRACT

In the normal heart, left coronary artery arise from the aortic valvular sinus adjacent to the pulmonary trunk. The main stem of left coronary artery runs a short course before dividing to become the anterior interventricular and circumflex artery. These arteries can have anomalous origin from either the aorta or pulmonary trunk; Their branches can have various anomalous origin relative to arterial pedicles. Understanding of these variations is key to determining those anomalous patterns associated with sudden cardiac death.

KEYWORDS : Anomalous, Coronary, Angiography, Aberrant.

INTRODUCTION

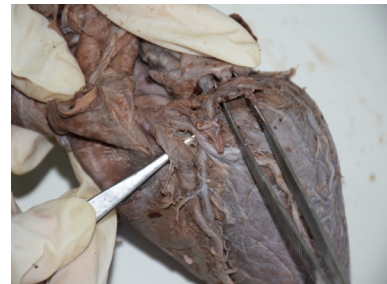
The role of coronary artery angiography and coronary surgery has been increasing day by day. So it becomes important to define and identify variations in the course and origin of the major coronary arteries and knowledge of the clinical significance of these variants become important. Numerous cases have been reported of anomalous origin of the coronary arteries from the aorta¹⁻¹². But rarity of these lesions has obscured both their anatomic and clinical delineation. The variations in origin of left coronary artery mainly found during coronary artery angiography. As this anomaly is a known anatomic variation which has no clinical significance per se recognition and angiographic demonstration of the anomalous artery assumes high priority in patients undergoing evaluation for direct coronary artery surgery or prosthetic valve replacement. Failure to demonstrate the anomaly can lead to erroneous interpretation of coronary artery anatomy and can prove hazardous to the patient.

CASE REPORT

During routine dissection of a male cadaver in the Deptt. Of Anatomy, Dr.RPGMC Tanda, Kangra (HP), We detected variation in origin of branches of left coronary artery of the heart. In the above said case, both the branches of left coronary artery viz. Anterior interventricular branch and circumflex branch arise directly from ascending aorta. The anomalous heart specimen was studied in great detail and the specimen was photographed.

OBSERVATIONS

The configuration and architecture of the heart confirmed to adult morphology. The heart showed direct origin of both the branches (anterior interventricular branch and circumflex branch) of ascending aorta. After direct origin from ascending aorta, these two branches follow the normal course i.e. the circumflex branch runs parallel to the coronary sulcus and anterior interventricular branch descends in the anterior interventricular groove. Both these branches further follow the normal course and anastomose with right coronary artery in myocardium. No other deformities were noted in the heart specimen.



DISCUSSION

Various studies were conducted on anomalous origin of the branches of coronary artery and aberrant coronary artery origin from the aorta in clinical trials for recognition, angiographic demonstration and clinical significance. Anomalous coronary origin from the pulmonary artery has been well described¹². Anomalous coronary origin from the aorta complicating other congenital cardiac anomalies, aberrant origin of coronary artery from the aorta in the absence of associated congenital heart disease has also been reported by many¹⁻¹². However, the clinical significance of these lesions has received little attention. Anomalous origin of circumflex artery, left anterior interventricular artery and of the right coronary artery are common. These patterns and rare additional variants have also been reported by others. High incidence of coronary and myocardial disease can be explained by anomalous coronary arteries and their branches. For clinical purposes, The variations in aberrant left coronary origin to the aorta and pulmonary trunk, it may be subdivided according to the course of the aberrant vessels in relation to the aberrant coronary pattern. Neither is there an evident relation between the aberrant vessel and coronary or myocardial disease. Thus, the coronary anomaly has no clinical consequences, as discussed by others. However, delineation of the aberrant coronary course and origin is important in those having cardiac surgery. To avoid severing a major coronary branch, as well as to avoid exclusion during coronary perfusion of an aberrant branch arising from the left coronary artery. Premortem detection of this anomaly would therefore generally be fortuitous. However, awareness of the association of aberrant pattern with sudden exertional death, particularly in young male is important and young patients with acute myocardial infarction, angina pectoris, or cardiac arrest, as it is potentially correctable. Anomalous origin of the coronary arteries from the aorta is an extremely rare cause of sudden death in the general population. However, in a selected series of young persons dying suddenly following exertion, a small number of deaths have been attributed to

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