

**Conclusions.** According to our findings, the diameter of coronary arteries varied. It depended on the heart size, on age and gender of the patient. The left coronary artery was wider in diameter and had a larger number of branches due to a considerably overload of the left heart chambers. Multiple anastomoses between the small branches of different arteries of the vascular plexuses and intrasystemic overlapping areas were revealed.

**Key words:** Coronary arteries, vascular plexuses

## 257. VARIABILITY OF THE AORTIC BULB AND ORIGIN OF THE CORONARY ARTERIES

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**Introduction.** The cardiovascular diseases are currently the leading cause of death in industrialized countries, and it is expected to become the leading cause of death in developing countries as well. The abnormalities of the coronary arteries origin can lead to life-threatening consequences, expressed through arrhythmias, syncope, myocardial infarction, or even sudden death in 20% of cases. Some abnormalities are asymptomatic, or produce non-characteristic symptoms, which are accidentally diagnosed during routine investigations, the most commonly during conventional angiographies.

**Aim of the study.** To make a detailed analysis and synthesis of the bibliographic sources regarding variability of the aortic bulb and origin of the coronary arteries.

**Materials and methods.** A literature review of 112 sources from MEDLINE, PubMed, Research Gate and Science Direct database were analyzed, but only 77 of those sources were eligible for our study.

**Results.** Abnormal origin of the coronary arteries can be detected on birth but also during adulthood. It regards the variations of coronary orifices origin in relation to the sino-tubular junction, leading to serious pathologies that can endanger the life. Among such abnormalities is the origin of the left coronary artery, leaving the right coronary sinus, which should be repaired in almost all patients. While the right coronary artery origin from the left coronary sinus is more frequent, but may be less severe, and surgery is generally reserved for patients with symptoms attributed to ischemia (such as syncope during exercises), documented ischemia, or history of coronary syndrome. The abnormal origin of the left coronary artery from the pulmonary artery is a rare congenital abnormality that if left unrepaired, has a mortality rate up to 90%.

**Conclusions.** Abnormalities of the coronary arteries origin are rare but significant, with potential risk for ischemia, related to physical exercises, which can be present in children, young and old people. Two main types of coronary arteries origin malformations are distinguished: the benign ones (with less life risk), and malignant (of high surgical interest). A unique surgical strategy cannot be applied to all the patients, and the operative techniques must be individualized, based on the individual specific anatomical features.

**Key words:** coronary arteries, aortic bulb, variability