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Comparison of right coronary artery with left coronary artery arising from opposite sinus : clinical presentation and risk of sudden death

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The objective of this study was to assess whether right coronary artery from opposite sinus (RCAOS) was less severe than left coronary artery (LCAOS).

Material and Methods : Patients diagnosed with RCOS and LVOS were compared regarding clinical presentation, outcomes and surgical management.

Results : 35 patients were diagnosed with anomalous aortic origin of a coronary artery, including 16 LCAOS (31% males), 19 RCAOS (42% males). Age at diagnosis was 24.1 ± 21.4 y in LCAOS and 18.5 ± 17.1 y in RCAOS. Patients were asymptomatic in 12.5% of LCAOS and 26.3% of RCAOS ($p=0.24$). Chest pain occurred in 56.2% vs 36.8% ($p=0.38$), syncope or sudden death in 37.5% vs 42.1% ($p=0.03$) and dyspnea in 12.5% vs 10.5% ($p=0.2$) of patients with respectively LCAOS and RCAOS. Patients with an inter-arterial course between the great arteries presented more frequently with syncope/sudden death compared with patients without (43.3 vs. 5.9%, $p=0.007$). Diagnosis was reached by first-line transthoracic echocardiography in half of the cases. Surgical repair was performed in 24 patients (68.5%): 64.7% of RCAOS and 76.2% of LCAOS. All operated patients (23 direct implantation, 1 unroofing) had been diagnosed with an inter-arterial course between the great arteries, and were asymptomatic at a median postoperative follow-up of 6.5 years (range from 3.1 to 14.6).

Conclusion: The frequency of severe clinical symptoms was similar in RCAOS with inter-arterial course than LCAOS. Outcome as well as incidence of surgical repair did not differ between both groups.