

Anomalies of the coronary arteries: a fatal under-diagnosed entity.

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Introduction:

The anomalies of the coronary arteries are currently blamed to be the second major cause of sudden death among young athletes.

In the last years, we have increased our rate of surgical repair on coronary arteries, as we improved our capabilities of make a correct diagnosis. However, we strongly believe that this dangerous entity is still under-diagnosed.

Methods:

Between 2012 and 2016, 13 patients presented to our Institution with a high risk coronary anomaly. Eleven showed an origin from the wrong aortic sinus (AOCA) associated to an inter-arterial course, and two presented with a myocardial bridge (MB). At the beginning of our experience, the AOCA was an accidental finding and was diagnosed fortuitously during a CT scan or a MRI. Subsequently, in the last two years, we were able to diagnose the AOCA using the echocardiographic examination and the role of the MRI was just confirmation and acquisition of details. The MB was suspected in young people who presented symptoms of angina, evidence of myocardial ischemia, and normal origin of the coronary arteries.

Surprisingly one of the AOCA had had surgical correction for a VSD in his youth, nevertheless the AOCA had not been diagnosed!

Results:

Among the AOCA group, 3 patients had a coronary reimplantation, 2 a coronary unroofing, one had a pulmonary translocation and, finally, 1 had a patch plasty of the ostium. One patient was not operated because of a single coronary ostium facing the pulmonary artery, one refused the operation and one arrived with cardiac arrest after a basketball game and suffered a brain death despite being rescued with an ECMO support. Finally one patient is 4 years old and is currently in follow-up.

The two patients with MB had a surgical bridge opening.

All surgical patients survived and presented complete normalization of their functional tests.

Conclusions:

We believe that AOCA and MB are more common than generally suspected. Their potential fatal role is currently well known, thus it is worth making an effort to have a diagnosis.

The role of ultrasound is crucial as it is the major contributor for the general screening.