Image in cardiology

Familial clustering of coronary anomalies identified through the RAC sign

Agrupación familiar de anomalías coronarias mediante signo de RAC

Lucía Fernández Gassó,[a,b,c,*] Gisela Feltes Guzmán,[a,b] and Violeta Sánchez Sánchez[a,b]

[a] Facultad de Ciencias Biomédicas y de la Salud, Departamento de Medicina, Universidad Europea de Madrid, Madrid, Spain
[b] Unidad Cardiovascular, Hospital Universitario Vithas Arturo Soria, Madrid, Spain
[c] Grupo de Investigación en Cardiología Clínica e Invasiva, Investigación en Cardiología Clínica e Invasiva (ICCI-PAZ), Hospital Universitario La Paz, Madrid, Spain

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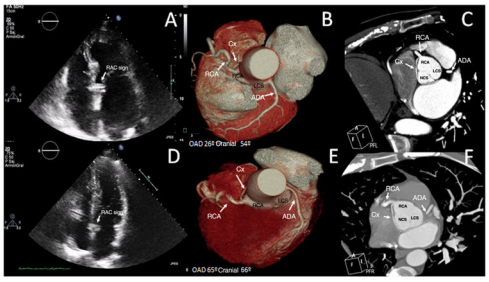

Figure 1.

We describe a case of familial clustering of coronary artery anomalies observed in a mother and daughter presenting with chest pain and palpitations. Both patients underwent cardiac evaluation. The transthoracic echocardiogram (TTE) revealed a distinct RAC (retroaortic anomalous coronary) sign associated with the circumflex artery in the mother and daughter (arrows in figure 1A and D, respectively). The RAC sign, which is an echogenic tubular structure observed on the atrial side of the atrioventricular groove in apical 4-chamber views on TTE, is strongly suggestive of an anomalous coronary artery with a retroaortic course. Coronary computed tomography angiography, performed as part of the chest pain evaluation, identified the same anomaly in the mother and daughter: a circumflex artery with a retroaortic course originating from the proximal/ostial segment of the right coronary artery. The size and morphology of the artery were normal in both patients (arrows in figure 1B and C [mother] and figure 1E and F [daughter]). ADA, anterior descending artery; Cx, circumflex artery; LCS, left coronary sinus; NCS, noncoronary sinus; RAC, retroaortic anomalous coronary; RAO, right anterior oblique; RCA, right coronary artery and right coronary sinus.

This case highlights the importance of considering genetic factors when assessing coronary anomalies, particularly as recent research has shown a significant incidence of familial clustering in this setting. The detection of identical anomalies within several families strengthens the hypothesis of a genetic component. Considering this link, we recommend screening of first-degree relatives of patients with high-risk coronary anomalies or a history of sudden cardiac death linked to a coronary anomaly. Targeted screening could help identify possible genetic patterns and guide preventive strategies for at-risk populations.

FUNDING

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ETHICAL CONSIDERATIONS

Informed consent was obtained for the tests performed and the publication of this report in line with international recommendations. Potential sex and gender biases were taken into account.

USE OF ARTIFICIAL INTELLIGENCE

No artificial intelligence tools were used.

AUTHORS' CONTRIBUTIONS

All the authors contributed to writing, revising, and structuring this manuscript.

CONFLICTS OF INTEREST

None.

* Corresponding author.
E-mail address: lucynandezga@gmail.com (L. Fernández Gassó).
@LuciaFGasso
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