Revista Portuguesa de Cardiologia 42 (2023) 267–268

Portuguese Society of CARDIOLOGY

Revista Portuguesa de
Cardiologia
Portuguese Journal of Cardiology
www.revportcardiol.org

EDITORIAL COMMENT

Spontaneous coronary artery dissection: When so much is unknown, details matter for the right decision

Disseção coronária espontânea. Quando o conhecimento escasseia, os detalhes contam para as decisões corretas

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Available online 23 January 2023

Although a rare event overall, causing 1–4% of all acute coronary syndromes (ACS), spontaneous coronary dissection (SCAD) mostly affects young people, accounting for up to 35% of ACS in women aged under 50 years, and pregnancy is a risk factor for its occurrence.[1] There is considerable controversy about the best treatment strategy, whether it should be myocardial revascularization as first-line strategy for all, as in ACS, or optimal medical treatment alone and revascularization for selected patients only. The rationale for the latter approach is based on the distinct pathophysiology of SCAD and the fact that a large proportion of patients present complete healing on follow-up. Small single-center studies point to optimal medical treatment alone as leading to a better prognosis than myocardial revascularization as first-line treatment, contrary to what is supported by the evidence in atherothrombotic ACS.

In their single-center retrospective study published in this issue of the *Journal*, Proença et al. aimed to analyze their experience in managing SCAD in 36 patients over 11 years (2009–2020).[2] Almost all (94%) patients were female, as expected, with 47% of childbearing age.

Invasive angiography (ICA) was used in all patients as the only means of assessing coronary patency. SCAD type one (40%) and type two (60%) were the most prevalent.

Repeat angiography was performed in 13 patients (37%) (presumably during the first hospital admission, not mentioned), due to pain recurrence in nine cases and with no data regarding the other four. Even with disease progression, in eight of those 13 patients the operators assumed that no intervention was needed. Unfortunately, the reasons supporting the difficult decision not to intervene were not mentioned.

Strikingly, only four patients underwent coronary revascularization by angioplasty, due to TIMI flow grade 0 or 1 (three patients) and to left main dissection with hemodynamic instability (one patient). The other 32 patients (89%), presumably with some clinical stability (unfortunately not mentioned or detailed), were ''successfully treated medically''. But 12 patients had ST-elevation myocardial infarction (STEMI) on admittance. Assuming, that the patients revascularized (n=4) probably had a STEMI (not mentioned by the authors), this means that primary PCI (the gold standard treatment for STEMI) was performed in, at most, a third of patients with STEMI.

In most circumstances the decision taken could be criticized, because in a patient with chest pain and STEMI,

DOI of original article: https://doi.org/10.1016/j.repc.2023.01.018
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https://doi.org/10.1016/j.repc.2023.01.015

everyone expects primary angioplasty as the first and only good treatment option, and as soon as possible. But that was not what was decided. Even in the majority of patients, with pain and STEMI, and others with chest pain recurrence and disease progression on repeat angiography, the decision was made to wait and withhold aggressive procedures in an unpredictable scenario, which the overall results showed to be the right decision.

The result was that most patients (94%) remained in Killip class I, with normal left ventricular ejection fraction at hospital discharge in 72% of patients and no in-hospital mortality. During a median follow-up of 40 months (interquartile range 14–95), seven patients (19%) underwent repeat ICA, due to pain recurrence, myocardial ischemia, or operator decision. All patients with repeat ICA presented dissection improvement (not specified by the authors), and in half of them, the dissection had healed. Most importantly of all, no patient died, an astonishing result in view of the severity and complexity of the disease and the absence of guidelines to support the difficult decisions to be made, but in line with the results of previous published studies.[3,4]

In ACS secondary to SCAD, with compromised coronary flow, the decision whether to intervene is complicated and difficult, but critical to a long-term successful result in this young patient population.

Unfortunately, we do not know how those responsible for this single-center experience achieved such results, as the criteria and decision algorithms used to support their choices are not specified in the paper.

In severe and complex diseases, when so much is unknown, details matter.

Conflicts of interest

The author has no conflicts of interest to declare.

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