

Letters to the Editor

Score System Approach to Diagnose and Manage Spontaneous Coronary Artery Dissection



Sistema de puntuación para el enfoque diagnóstico y terapéutico de la disección coronaria espontánea

To the Editor,

We have read with great interest the publication by Lezcano Gort et al.¹ The authors have kindly reported their experience in which a 40-year-old postpartum woman with no relevant coronary risk factors was admitted for non-ST-segment elevation myocardial infarction in which optical coherence tomography and intravascular ultrasound images showed a multivessel spontaneous coronary artery dissection (SCAD).

In this regard, we would like to mention further considerations: SCAD is a misdiagnosed entity because of the difficulty of recognizing the pathognomonic multiple radiolucent lumen with contrast wall staining. This typical sign is absent in > 70% of

SCAD cases and only intravascular imaging can help to verify arterial wall integrity.^{2,3}

SCAD can manifest with several clinical presentations, including angina pectoris, any type of acute coronary syndrome, and cardiogenic shock or sudden cardiac death,^{4,5} causing a dramatic exitus considering the young age of most patients.

With these premises, we have recently published a flowchart (Figure⁶) for a faster diagnosis and proper treatment according to a literature review^{2–7} and our own experience.^{8–10}

Our flowchart assigns each clinical/angiographic risk factor for SCAD a score of up to 3 (Figure⁶). In a patient presenting with chest pain, ECG anomalies (ie, transitory/permanent ST-segment elevation), abnormal kinesis on echocardiogram, or cardiac troponin rise/fall with at least 3 points, according our score, we suggest the performance of an optical coherence tomography/intravascular ultrasound analysis for SCAD exclusion.

When we compared our point system with the case reported by Lezcano Gort et al.,¹ we found more than 3 clinical points and very clear signs on coronary angiography (which add other 3 points).

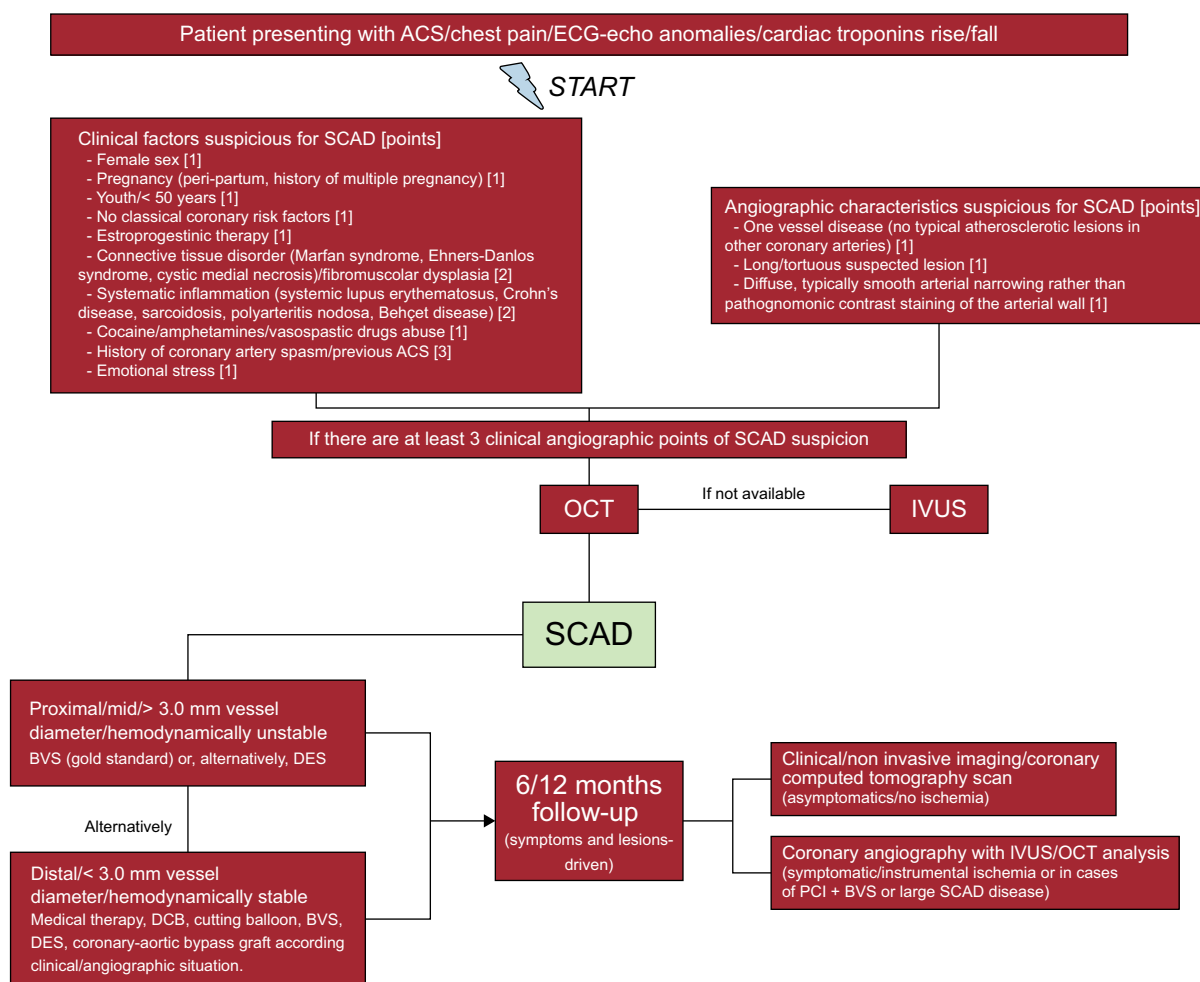


Figure. Flowchart for the diagnosis and management of SCAD. Reproduced with permission from Buccheri et al.⁶ ACS, acute coronary syndrome; BVS, bioresorbable vascular scaffold; DCB, drug-coated balloons; DES, drug-eluting stent; ECG, electrocardiogram; IVUS, intravascular ultrasound; OCT, optical coherence tomography; PCI, percutaneous coronary intervention; SCAD, spontaneous coronary artery dissection.

Apropos the treatment strategy, we strongly agree with the solution of Lezcano Gort et al.¹ This treatment strategy is fully in accordance with that suggested in our flowchart. In fact, for asymptomatic patients with distal vessel SCAD or < 3.0 mm vessel diameter, we propose considering conservative management (first choice) or the use of one of the following devices: bioresorbable vascular scaffold, drug-eluting stent or drug-coated balloons, according to the clinical/angiographic characteristics of the patient.^{6,10}

On the other hand, a bioresorbable vascular scaffold strategy should be preferred in cases of proximal/middle vessel lesion, ≥ 3.0 mm diameter or if the patient is still symptomatic/hemodynamically unstable, as reported by our group^{8,10,11} and in line with an emblematic case previously published in this journal.¹²

Close follow-up with or without invasive coronary imaging to assess the risk of SCAD recurrence and the optimal sealing of the vessel over time is of primary importance.^{3,4}

In conclusion, we wish to stress that a clinical/angiographic point system seems to be mainly useful in helping interventionists to avoid a missed diagnosis of SCAD. Furthermore, we believe that our treatment suggestion could be a good starting point in the absence of universal expert consensus or broad clinical experience to establish the most appropriate treatment for patients with SCAD.

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REFERENCES

1. Lezcano Gort LE, Romani SA, Rodríguez Carreras CR. Postpartum Multivessel Spontaneous Coronary Artery Dissection. *Rev Esp Cardiol*. 2016. Available at: <http://dx.doi.org/10.1016/j.recesp.2015.12.027> [Epub ahead of print]
2. Saw J, Mancini GBJ, Humphries K, Fung A, Boone R, Starovoytov A, et al. Angiographic appearance of spontaneous coronary artery dissection with intramural hematoma proven on intracoronary imaging. *Catheter Cardiovasc Interv*. 2016;87:E54–61.
3. Alfonso F, Paulo M, Gonzalo N, Dutary J, Jimenez-Quevedo P, Lennie V, et al. Diagnosis of spontaneous coronary artery dissection by optical coherence tomography. *J Am Coll Cardiol*. 2012;59:1073–9.
4. Saw J. Spontaneous coronary artery dissection. *Can J Cardiol*. 2013;29:1027–33.
5. Giacompo D, Capodanno D, Dangas G, Tamburino C. Spontaneous coronary artery dissection. *Int J Cardiol*. 2014;175:8–20.
6. Buccheri D, Piraino D, Andolina G. Behçet disease and spontaneous coronary artery dissection: The chicken or the egg? *Int J Cardiol*. 2016. Available at: <http://dx.doi.org/10.1016/j.ijcard.2016.04.145> [Epub ahead of print]
7. Alfonso F, Bastante T, Cuesta J, Rodríguez D, Benedicto A, Rivero F. Spontaneous coronary artery dissection: novel insights on diagnosis and management. *Cardiovasc Diagn Ther*. 2015;5:133–40.
8. Buccheri D, Piraino D, Silva Orrego P, Cortese B. Is vasospasm overestimated in acute coronary syndromes presenting with non-obstructive coronary artery disease? The case for intravascular imaging *Int J Cardiol*. 2016;203:1125–6.
9. Buccheri D, Piraino D, Cortese B. Intravascular imaging as a tool for definite diagnosis of acute coronary syndrome caused by spontaneous coronary artery dissection. *Int J Cardiol*. 2016;214:43–5.
10. Buccheri D, Piraino D, Latini RA, Andolina G, Cortese B. Spontaneous coronary artery dissections: a call for action for an underestimated entity. *Int J Cardiol*. 2016;214:333–5.
11. Buccheri D, Piraino D, Andolina G. Biovascular resorbable scaffold for spontaneous coronary artery dissection: RALders on the storm of a debatable therapy. *Int J Cardiol*. 2016;214:387–8.
12. Ortas-Nadal MR, Pascual I, Moreno-Ambrojo C. A Spontaneous Coronary Dissection Successfully Treated With Bioabsorbable Scaffolds. *Rev Esp Cardiol*. 2015;68:894.

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Score System Approach to Diagnose and Manage Spontaneous Coronary Artery Dissection. Response



Sistema de puntuación para el enfoque diagnóstico y terapéutico de la disección coronaria espontánea. Respuesta

To the Editor,

We appreciate the interest of Buccheri et al. in our report.¹ After reading it carefully, we would like to comment on their considerations.

Spontaneous coronary artery dissection (SCAD), formerly considered rare, is now the most common cause of myocardial infarction associated with pregnancy and an important cause of acute coronary syndrome in women under the age of 50 years, in whom it can reach a prevalence of nearly 30%.² However, it is difficult to diagnose unless there is a high level of suspicion, and interventional cardiologists are not familiar with the most common angiographic pattern of SCAD (type 2). This leads to erroneous diagnoses and the underdiagnosis of SCAD.

The advent of intracoronary imaging techniques (optical coherence tomography and intravascular ultrasound) has contributed to the optimization of the identification of this entity.³ These techniques are essential parts of the algorithms designed for the diagnosis and treatment of SCAD.⁴ The system proposed by Buccheri et al.⁵ is novel in that it scores clinical and angiographic

variables that increase the suspicion of SCAD, an approach that favors the use of optical coherence tomography and/or intravascular ultrasound to confirm and treat it. We consider this to be a useful and practical diagnostic strategy that certainly would avoid many erroneous diagnoses. However, the treatment they propose is based on their own experience and a review of the literature; in contrast to atherosclerotic disease, there are no randomized controlled trials dealing with SCAD, and the conservative strategy proves to be valid for most stable patients. Therefore, while their generalized implementation is well-founded, at the present time, it is not a very likely prospect. Nevertheless, we agree that it can be a starting point from which, working together, we could establish the optimal management of SCAD and that this be reflected in our clinical practice guidelines.

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