Author's response to reviews

Title: The role of Intravascular Ultrasound in the management of spontaneous coronary artery dissection

Authors:

Jayanth R Arnold (ranjitarnold@yahoo.co.uk)
Nick EJ West (nejwest@hotmail.com)
William J van Gaal (William.vanGaal@nh.org.au)
Theodoros D Karamitsos (theo.karamitsos@cardiov.ox.ac.uk)
Adrian P Banning (adrian.banning@orh.nhs.uk)

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Author's response to reviews: see over
Dear Dr Picano,

We thank both reviewers for their helpful comments. In response to their suggestions, we have extensively revised the manuscript. The discussion has been shortened considerably and a greater emphasis placed on the utility of IVUS. AVI files are also attached.

Our responses to the reviewers’ individual comments are listed below.

Yours sincerely,

Dr JR Arnold

Reviewer's report 1

*The data are clearly presented and well discussed.*

*I have only minor comments that the Authors might wish to address:*

*This is an interesting series of 4 cases of spontaneous coronary artery dissection. I suggest to present it structured as an original paper rather than a case report.*

We thank the reviewer for these helpful comments. Whilst we considered submitting our report as an original paper, we felt that this might appear somewhat disingenuous on our behalf: the cases discussed were not the *only* cases of confirmed/suspected SCAD in the timeframe of collection at our centre (please see also response to point 1 below), but those that serve as illustrative examples of the condition, and that demonstrate the utility of IVUS in providing useful/important information that helped to improve patient diagnosis and management. The total caseload

We hope that this explains our preferred means of presentation of the manuscript.

1. Please, specify if all cases were observed in 1 single center (or more), in how much time, and out of a total caseload of how many patients.

All cases were treated at the John Radcliffe Hospital in Oxford, UK, between 2001 (month/year) and 2006. The average PCI caseload for the unit is 1500 per year. These data are not included in the body of the manuscript, as, for reasons already touched upon, these were not the only cases of definite or suspected SCAD in the total procedural volume of cases between these dates. Thus, to quote such figures would suggest a frequency of occurrence that would be inaccurate. Estimates of the frequency of this condition are difficult to make, given the lack of invasive imaging in all potential cases and the pitfalls in diagnosis when angiography (without IVUS) is performed, as illustrated by some of the cases presented. Some authors have quoted frequency in terms of percentage of consecutive angiograms performed (please see discussion for references).
2. If possible, add a schematic figure and/or a table with angiographic and IVUS signs of coronary artery dissection.

A table listing the angiographic and IVUS features has now been included.

3. Please, remember that you can upload movies, which might be especially [useful] teaching for IVUS dissection.

IVUS and angiogram movies are now included.

Reviewer's report 2

In the present manuscript authors describe 4 cases of spontaneous coronary artery dissection. The cases are well described and try to provide insights in this dramatic, life-threatening condition, albeit rare.

1. Authors can upload movies both coronary angio and intravascular ultrasound. They also could provide echo images of the described cases.

IVUS and angiogram movies are now included.

2. The discussion is too long and should be more focused on the real usefulness of intravascular ultrasound in this set of patients. Moreover, more practical clinical informations should be provided. Is it a contraindication to thrombolyse these patients? Although the incidence rate of this condition is quite [rare], from a clinical standpoint, what is the approach authors suggest for this set of patients?

We have accordingly shortened the discussion and attempted to focus the points made as you suggest and have included information specifically on the utility of IVUS in achieving the diagnosis and then guiding subsequent PCI.

We assert that the use of thrombolysis in SCAD should be avoided. This appears to be supported by numerous case-reports in the literature, and by our own experience. We have made this more clear in the manuscript.