doi:10.1093/eurheartj/ehw467

Spontaneous coronary artery dissection

A new Study Group for this unusual and serious condition was announced at ESC Congress in Rome by the Acute Cardiovascular Care Association (ACCA) of the ESC

The inaugural ESC-ACCA Spontaneous Coronary Artery Dissection Study Group breakfast meeting, at the ESC-Congress in Rome

Spontaneous Coronary Artery Dissection (SCAD) is an increasingly recognized cause of non-atherosclerotic acute coronary syndromes afflicting predominantly younger women. It is characterized by a separation of the layers of the coronary arterial wall by an accumulation of blood to form a false lumen. A build-up of pressure within the false lumen leads to external compression of the true coronary lumen restricting coronary blood flow and leading to myocardial ischaemia or infarction. SCAD should be distinguished from atherosclerotic dissections arising from plaque rupture events or erosions and from traumatic dissections or iatrogenic dissections arising during coronary procedures.

Historically SCAD was primarily considered to be a condition of pregnancy or associated with known connective tissue disorders. However, it is now clear these cases make up a small proportion of the prevalent population and most events occur unheralded in patients with minimal cardiovascular risk factors.[1–3] In this conventionally low-risk group, diagnosis is frequently missed or significantly delayed. Furthermore, characteristic angiographic and intracoronary imaging appearances are not widely recognized, partly because of a common misconception that a visible dual lumen or linear dissection 'flap' will usually be present.[2,4]

Accurate diagnosis of SCAD is important because of key differences in management compared to atherosclerotic coronary disease. Success rates following revascularisation are lower in SCAD and if conservative management is possible (e.g. in haemodynamically stable patients with TIMI 3 flow in the infarct related artery), the dissection usually heals over a few weeks/months.[5] Stenting may be essential to restore coronary blood flow but is complicated by the risk of proximal and distal migration of the mural haematoma such that long lengths of stenting may be required to restore coronary integrity and flow. Bypass surgery can be used as a bail out where percutaneous coronary intervention has failed or for high-risk left main stem or proximal dissections but longevity of grafts in the context of SCAD is reduced by healing of the native coronary and subsequent competitive flow leading to high-graft occlusion rates.

Management of SCAD-survivors is challenging with considerable uncertainty about the optimal approach. For example, antiplatelet therapy, whilst required in patients following coronary stenting, can precipitate menorrhagia and the indication in conservatively managed patients for a condition whose primary pathophysiological event is an intramural bleed, is less clear, especially after the acute phase. Likewise, the use of statins has been questioned for a condition whose primary pathophysiology appears distinct from atherosclerosis and unrelated to cholesterol. Furthermore, SCAD patients face particular questions unusual in an atherosclerotic population, such as about safe contraception and the risk of pregnancy. Of particular concern is recurrent SCAD which is well recognized and may affect as many as one in four patients over 5 years.[4,6]

To date research in Europe has been limited to a number of national registries, small clinical studies, and case series. Globally the largest reported series contain just a few hundred cases. As a result, SCAD represents a substantial area of unmet clinical need.

There is therefore an urgent necessity to coordinate research internationally to enable larger numbers of patients to be studied. This will advance our knowledge of the epidemiology, pathophysiology, and clinical management of SCAD. With this aim, an inaugural meeting was held to welcome the SCAD Study Group within the Acute Cardiovascular Care Association of the ESC at the recent ESC Congress in Rome. Support from the European Fibromuscular Dysplasia (FMD) Group (a condition which occurs in a significant proportion of SCAD patients[1–3]) was especially welcome. The aims of the Study Group are:

- To establish a collaborative partnership to advance research into SCAD
- To maintain a European registry of SCAD patients to advance understanding of epidemiology and variations in patient management and outcomes
- To coordinate and support clinical and pre-clinical research into SCAD
- To formulate and disseminate a European consensus on the diagnosis and management of SCAD
- To improve accurate diagnosis by raising awareness of SCAD
- To support patients with this condition

The Study Group welcomes any interested clinicians to make contact and hope by working together we can make an important contribution to better understanding SCAD and improving our care and support for SCAD-survivors.

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References are available as supplementary material at *European Heart Journal* online.

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