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Information sheet

Pregnancy and Spontaneous Coronary Artery Dissection: Lessons From Survivors and Nonsurvivors

Below is Beat SCAD's summary of Pregnancy and Spontaneous Coronary Artery Dissection: Lessons From Survivors and Nonsurvivors, published in Circulation, June 2022.

The information below is a summary of the main points in the paper*. We have explained as much of the paper as possible in plain English for SCAD patients and their families.

We highly recommend GPs, cardiologists, cardiac rehab staff and other health professionals read the full paper.

Please note, this information sheet is not intended as medical advice and SCAD patients should always discuss their treatment with a medical professional.

Overview

Research into the management of women with pregnancy-associated Spontaneous Coronary Artery Dissection (P-SCAD) has identified that most incidents of P-SCAD happen in the first six months after pregnancy. P-SCAD heart attacks tend to be high risk, however many women are treated successfully without surgical intervention.

This research focused on 82 patients, between the years of 1984 and 2021, who had experienced a confirmed pregnancy-related SCAD during or within 12 months post-partum.

Outcomes for 28 women with a history of SCAD, who went on to become pregnant, were also examined, with a recommendation for individualised advice and preconception counselling due to a moderate risk of recurrence.

Information on 13 patients who did not survive P-SCAD was collected from the MBRRACE-UK audit of maternal deaths. In these cases, sudden fatal arrhythmias were reported and there was little opportunity for medical treatment.

In-depth summary

Spontaneous coronary artery dissection (SCAD) is a lesser known heart condition in which a tear or bruise forms in the wall of a coronary artery that supplies blood to the heart. The restriction of blood flow can result in a heart attack or cardiac arrest.

SCAD predominantly affects young to middle-aged women with none or few of the risk factors associated with conventional coronary artery disease.

SCAD is an important cause of pregnancy-related heart attacks. This paper looks at the presentation and treatment of pregnancy associated with SCAD (P-SCAD), reviewed outcomes for 82 patients who had a confirmed P- SCAD during or within 12 months of pregnancy. The research also examined outcomes for women who became pregnant after previously experiencing a SCAD.

The study reported that incidents of P-SCAD could happen at any stage but were most common in the first six months after pregnancy. Heart attacks caused by P-SCAD were shown to be high risk. Almost half of the reported cases were STEMI (ST segment elevation myocardial infarction), a severe heart attack where there is a complete interruption of blood supply to the heart. Despite this, 56% of patients were managed conservatively without surgical or invasive procedures. Of the remainder, 12% were referred for coronary artery bypass surgery and 32% received percutaneous coronary intervention (PCI), a non-surgical, invasive procedure to restore blood flow.

Of the patients who had PCI, 40% experienced complications. This included dissection caused by the procedure itself and extension of bruising. One failed PCI led to coronary artery bypass surgery. The average number of coronary stents used to hold open arteries was three.

Patients who experienced a SCAD between 1984 and 2021 were recruited from European SCAD registries. The average age of patients was 36 and they had few of the risk factors associated with conventional coronary artery disease. The majority had never smoked or were former smokers, with only a small percentage who were living with health conditions such as diabetes (5%), previous stroke (2%) or high blood pressure (15%). 22% had some family history of coronary artery disease and 16% were found to have extraordinary arteriopathies (abnormalities such as tortuosity of the arteries, aneurysm or blood vessel disorders including fibromuscular dysplasia, FMD).

When examining pregnancy after SCAD, 37 pregnancies were identified in 28 patients with a confirmed history of SCAD. Of this number, three women opted for termination following medical advice and seven spontaneous miscarriages were reported. For the pregnancies reaching full term, the average delivery was 39 weeks with 41% doing so by caesarean section. 17 patients were taking beta blocker medication throughout the pregnancy. Within the 37 pregnancies there were three major adverse events, two confirmed recurrent SCADs within 12 months of delivery and one likely recurrence at 19 weeks pregnant. There were no maternal or neonatal deaths as a result of these events. The study noted that women considering pregnancy after SCAD would benefit from individualised advice and preconception counselling due to the modest risk of recurrence.

Information on 13 patients who did not survive P-SCAD was also collected from the MBRRACE-UK audit of maternal deaths. Of 13 maternal deaths, three occurred during pregnancy and 10 occurred after. 12 women had an out-of-hospital cardiac arrest. Three women were recorded as reporting symptoms before cardiac arrest. The most common site for the dissection was in the LAD (left anterior descending), the largest coronary artery. A quarter of the women had dissections in more than one artery. Most deaths from P-SCAD were the result of sudden fatal arrhythmia with little opportunity for medical treatment.

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***Pregnancy and Spontaneous Coronary Artery Dissection: Lessons From Survivors and Nonsurvivors**

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