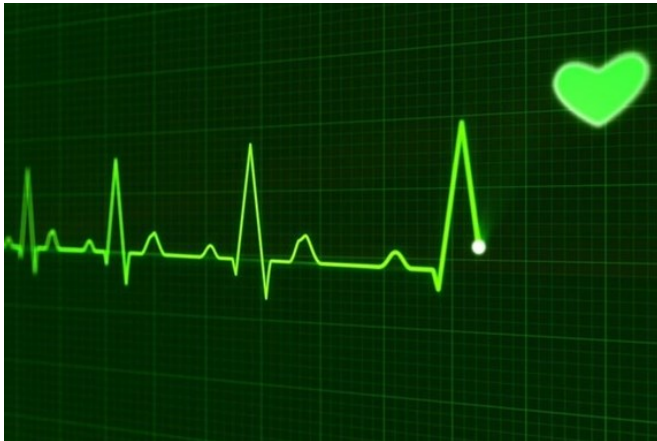


Women at risk of 'stress-induced' heart attacks, says study

21 March 2017



Credit: Aston University

The largest ever study into a form of heart attack that mainly affects younger, seemingly healthy women has found there could be 1,000 victims per year in the UK.

The research, carried out by cardiologists at Aston Medical School, Aston University in Birmingham, UK and the University of Alberta, Edmonton, Canada used the ACALM Big Data algorithm to discover the incidence of Spontaneous Coronary Artery Dissection, or SCAD.

SCAD happens when one or more of the inner layers of a [coronary artery](#) tears away from the outer layer. Blood is able to flow into the space between the layers and a blood clot forms, reducing the flow of blood through the artery, leading in some cases to a potentially fatal [heart attack](#).

The condition is unusual because it mainly occurs in younger people with few or no risk factors for [heart](#) disease, 70% of them women. And around 30% of victims are nearing the end of a pregnancy or have recently given birth. Studies have linked

SCAD [attacks](#) to severe emotional stress caused by events such as sudden death in the family, extreme physical exercise and labour during pregnancy.

Studying more than 33,000 patients with heart attack over a period of 15 years, the UK and Canadian researchers found 0.54% were due to SCAD. With over 188,000 heart attacks each year in the UK, this means approximately 1,000 may be due to SCAD.

Furthermore, 10.4% of SCAD victims died from the condition – equating to around 100 deaths a year in the UK.

The findings also shed new light on the characteristics of SCAD sufferers. They tend to be younger than other heart attack victims, with an average age of 52, compared to 66 for other heart attack sufferers. But SCAD victims also display much lower rates of known risk factors such as diabetes, high cholesterol levels or hypertension – making them much harder to identify.

On the other hand, by tracking SCAD sufferers over such a long period of time, the study shows SCAD victims were much less likely to need major surgery or die from the condition than other heart attack sufferers. Around 90% of people with SCAD were still alive five years after their first hospitalisation.

Dr Rahul Potluri, lead researcher and founder of ACALM (Algorithm for Comorbidities, Associations, Length of stay and Mortality) Study Unit at Aston University and Dr Kevin Bainey, research interventional cardiologist at the Mazankowski Alberta Heart Institute, University of Alberta, said:

"Using the Big Data available to us at the ACALM study unit, we've been able to conduct the largest ever study on the incidence, risk factors and long-term impact of SCAD. Although we believe there's still significant under-reporting of SCAD, this study equips us with the most comprehensive picture of

prevalence we've ever had.

"SCAD is unusual because, unlike other heart attacks where the coronary arteries get plugged up over time with cholesterol deposits, it's caused by a sudden tear where the coronary artery simply falls apart.

"It's also seen in a much different group of people – typically young women, many of them either pregnant or shortly after giving birth. We believe that emotional and hormonal factors play a big part in SCAD attacks, although the exact cause will vary from person to person

"The key thing now is that we need to get much better at identifying SCAD so we can prevent hospitalisations and deaths. Using the Big Data at our disposal, we will be able to look at hundreds of different [risk factors](#) in detail to find the strongest predictors.

"Because the overall prevalence of SCAD is low – despite being individually devastating for victims and their families – we need to look across vast datasets to gather enough information to spot the signs – hence the benefits of [big data](#)."

Provided by Aston University

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