

Mayo Clinic study finds risk of sudden cardiac death highest early after attack

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People who survive a heart attack face the greatest risk of dying from sudden cardiac death (SCD) during the first month after leaving the hospital, according to a long-term community study by Mayo Clinic researchers of nearly 3,000 heart attack survivors.

Sudden cardiac death can happen when the heart's electrical system malfunctions; if treatment - cardiopulmonary resuscitation and defibrillation - does not happen fast, a person dies.

After that first month, the risk of sudden cardiac death drops significantly - but rises again if a person experiences signs of heart failure. The research results appear in the Nov. 5 edition of *Journal of the American Medical Association*.

This study emphasizes the need for physicians to stay in close contact with their heart attack patients, forming a partnership to recognize symptoms, says Veronique Roger, M.D., M.P.H., a Mayo Clinic cardiologist and lead author of the study. Physicians and patients - and their family members - need to be keenly alert for the symptoms of heart failure, as described by the American Heart Association, Dr. Roger says.

Heart failure symptoms that require immediate attention include:

- Shortness of breath

- Persistent cough or wheezing
- Bloating and swelling
- Fatigue
- Confusion

"There are three key findings here that can be immediately applied to heart attack patients today," Dr. Roger says. "One is that the first month post-heart attack is the highest risk period for patients to suffer sudden cardiac death - and acute surveillance is warranted. A second is that the risk drops rapidly after the first month, but this does not mean the patient is out of danger. Surveillance is still required after the first month because our third finding shows that even though the risk drops after the first month, the onset of symptoms of heart failure at any time after the heart attack markedly increases the risk of SCD."

The study is one of the largest and longest comprehensive community studies performed by reviewing medical records. Drawing on data from the Rochester Epidemiology Project, the study analyzed the records of 2,997 men and women who had heart attacks in Olmsted County, Minn. - the county where Mayo Clinic is located - between 1979 and 2005. The patients' average age was 67 years. Patients were followed until death or the last recorded medical exam. Investigators were able to identify out-of-hospital deaths whose primary cause was listed as coronary heart disease. This enabled them to analyze sudden cardiac death trends. Housed at Mayo Clinic, the Rochester Epidemiology Project is one of the largest long-term, integrated databases of patient records in the world.

Another major finding of this study identifies a long-term, positive trend in the reduction of sudden deaths by nearly 40 percent over this time. This reflects medical advances in the care of heart patients, Dr. Roger says.

These include the use of rapid restoration of blood flow during the initial phase of the heart attack, treated by emergency care and the adoption of "secondary prevention" measures. These measures include diet and lifestyle changes, such as taking medications to lower cholesterol levels and blood pressure. The measures help keep heart disease from developing or progressing, Dr. Roger says.

Source: Mayo Clinic

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