

# Doctors aggressively treat early heart attacks, research shows

April 9 2007

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An international study involving 467 hospitals in 12 countries found that doctors do a good job of aggressively treating the early stages of heart attacks – even before laboratory tests confirm the diagnosis.

“There has always been a concern that patients may be treated less aggressively when they present with heart attack symptoms before laboratory tests are able to confirm the diagnosis,” said Chadwick Miller, M.D., lead author and an emergency medicine physician at Wake Forest University School of Medicine. “But these findings suggest doctors are doing an appropriate job of aggressively treating these patients.”

Results from the research, which included more than 8,000 patients, are reported on-line in the *European Heart Journal* and will appear in a future print issue.

Laboratory testing is one tool used by doctors to confirm whether a patient is experiencing a heart attack. The tests measure levels of the protein troponin, which increase when there is damage to the heart muscle. However, it can take six to eight hours after symptoms begin for these markers to increase.

“These tests are also used by doctors to determine which therapies would benefit the patient the most,” said Miller. “Those with elevated markers are at higher risk, and more aggressive treatments are warranted. But, in patients who come to the emergency department immediately after their symptoms begin, it can be difficult to determine if they are having a

heart attack. This uncertainty could lead to delay in treatment.”

The study compared results among three groups of patients: those with initially normal levels of troponin that became elevated within the next 12 hours – and were considered to be having an “evolving” heart attack; those whose markers were elevated at the time of the evaluation and were diagnosed with a heart attack; and those whose markers did not become elevated within 12 hours.

“We wanted to determine if these patients with early symptoms were being treated the same as patients who were known to be having a heart attack, or if the doctors were waiting for elevated heart markers before beginning treatment,” said Miller. “Our findings suggest that doctors were treating both of these high-risk patient groups the same and were not waiting for the heart markers to elevate.”

The results showed that in both groups that had heart attacks, doctors treated patients with aspirin and other blood-thinning medications. The groups also had similar rates of angioplasty, a procedure to open blocked arteries, and surgery to “bypass” blocked arteries.

Miller said the results suggest that doctors are using other immediately available data, such as information from the patient's history and electrocardiogram, to make treatment decisions.

The researchers also found that those patients who were having an “evolving” heart attack were 19 percent less likely to die or have a second heart attack within 30 days than patients who were immediately diagnosed with a heart attack. Although the exact reason for this finding cannot be determined from this research, this finding could be due to earlier treatment, said Miller. The patients with “evolving” heart attacks came to the emergency department a median of 1.7 hours after their symptoms developed, compared to 4 hours for those whose heart attack

markers had already increased.

Of the 8,312 patients in the study, 66 percent were diagnosed with a heart attack at enrollment, 20 percent had an “evolving” heart attack that showed up on lab tests within 12 hours and 13 percent of participants didn’t have elevated markers within 12 hours.

The research was an analysis of a larger trial, the Superior Yield of the New strategy of Enoxaparin, Revascularization, and GLYcoprotein IIb/IIIa inhibitors (SYNERGY) trial. The study included patients who met two of the following criteria: at least 60 years old, elevated heart markers and an electrocardiogram test that indicated a possible heart attack.

Source: Wake Forest University Baptist Medical Center

Citation: Doctors aggressively treat early heart attacks, research shows (2007, April 9) retrieved 4 April 2024 from <https://medicalxpress.com/news/2007-04-doctors-aggressively-early-heart.html>

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