

Study calls for 'as soon as possible' treatment standard for heart attack patients

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Once in hospital, heart attack patients should be treated without delay to cut their risk of death, ideally within even less than the 90 minutes currently recommended by clinical guidelines, say researchers in a paper published on bmj.com today.

After a [heart attack](#), patients often undergo a procedure using a balloon-tipped catheter that is inserted into a main artery, pushed into the narrowed coronary artery, and inflated to clear the blockage. This is called primary percutaneous coronary intervention, or more simply balloon angioplasty.

The time between a patient's arrival at hospital and first balloon inflation is known as the "door-to-balloon time." The current target is 90 minutes, but the benefits of reducing this time even further is still unclear.

So researchers based in the United States set out to investigate the association between door-to-balloon time and deaths in hospital among patients undergoing balloon angioplasty after a heart attack.

They analysed data for 43,801 patients from the American College of Cardiology National Cardiovascular Data Registry. All patients underwent balloon angioplasty within 12 hours of a heart attack at a United States acute care hospital between 2005 and 2006.

Average door-to-balloon time was 83 minutes, with over half of patients (58%) treated within 90 minutes of admission. Overall in-hospital

[mortality](#) was 4.6%.

A greater proportion of patients who had longer door-to-balloon times were women, non-white, and, on average, older than patients with shorter door-to-balloon times. They also had more comorbidities (other disorders, such as diabetes and [high blood pressure](#)) than patients with shorter door-to-balloon times.

After adjusting for factors that may have affected the results, longer door-to-balloon times were associated with a higher risk of in-hospital mortality. For example, 3% of patients with door-to-balloon times of 30 minutes died in hospital, while 4.3% of patients with door-to-balloon times of 90 minutes died. The highest mortality rate (10.3%) was for patients with door-to-balloon times of 270 minutes.

These results indicate that any delay in door-to-balloon time for heart attack patients undergoing balloon angioplasty is associated with higher mortality, even among patients treated within 90 minutes of admission, say the authors.

"Rather than accepting the 90 minute door-to-balloon time benchmark, our data support calls for an 'as soon as possible' standard for [patients](#) undergoing primary percutaneous coronary intervention. Such an approach, using necessary safeguards against inappropriate treatment, offers the potential for notable mortality reduction," they conclude.

Source: British Medical Journal ([news](#) : [web](#))

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