

New approach to treating heart attacks reduces risk of life-threatening complications

June 24 2009

Transferring heart attack patients to specialized hospitals to undergo angioplasty within six hours after receiving clot-busting drugs reduces the risk of life-threatening complications including repeat heart attacks, according to a new study from St. Michael's Hospital and Southlake Regional Hospital.

The findings, published today in the [New England Journal of Medicine](#), suggest that routine early transfer of patients after clot-busting drugs are administered results in significantly better outcomes than the current traditional practice of transferring patients only when the clot-busting drugs fail.

The study -which is the largest randomized trial of its kind to date -- followed 1,059 heart attack patients who were treated with clot-busting drugs at community hospital emergency departments in Ontario, Manitoba and Quebec. Researchers compared a strategy of transferring heart attack patients to hospitals with on-site [angioplasty](#) facilities to undergo angioplasty within six hours after administration of clot-busting drugs, as opposed to the traditional approach of transferring only those patients when clot-busting drug treatments are unsuccessful.

"When treating patients with heart attacks, timing is everything, " said Dr. Shaun Goodman, the study's chairman and associate head of cardiology at St. Michael's Hospital, "A patient's chances of recovery are significantly improved if care is provided in a setting where angioplasty can be done soon after clot-busting therapy is given."

All patients in the study initially sought treatment at a hospital without angioplasty capability and were treated with a newer clot-busting drug (tenecteplase). Patients were then randomly assigned to one of two groups: urgent transfer for angioplasty within six hours, or standard care (no transfer for angioplasty within the first 24 hours unless the clot-busting medication failed to restore blood flow in the blocked artery). Patients who received standard care often underwent angioplasty 24-72 hours after the [heart attack](#).

Overall the research showed:

- 17 per cent of patients receiving standard care had serious cardiac complications within 30 days, compared with 11 per cent of those transferred immediately for angioplasty. That represents a 36 per cent reduction in potentially life-threatening complications, including repeat heart attacks, with no difference in major bleeding complications between the two groups.
- Patients who received the earlier angioplasty had lower rates of experiencing chest pain (0.2 per cent as compared to 2.1 percent)
- These same patients had fewer episodes of second heart attacks (3.4 per cent v 5.7 per cent)

Angioplasty - which uses a combination of catheter-mounted balloons and stents to open a completely blocked coronary artery and restore blood flow to the heart - is accepted as the best initial treatment for heart attacks when performed within 90 minutes of arrival at a hospital.

"The challenge, though, is that this is a goal that few hospitals in the world can achieve unless they have angioplasty facilities on site,"

explained the study's primary author Dr. Warren Cantor of Southlake Regional Health Centre, adding that less than 25 per cent of hospitals in North America have these resources. Until now, physicians have been reluctant to transfer [patients](#) to another hospital to undergo angioplasty soon after administering clot-busting medication as a result of earlier studies that revealed excess bleeding and no benefit with this approach.

Source: St. Michael's Hospital

Citation: New approach to treating heart attacks reduces risk of life-threatening complications (2009, June 24) retrieved 5 May 2024 from <https://medicalxpress.com/news/2009-06-approach-heart-life-threatening-complications.html>

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