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Heart disease patients with previous blockages more likely to die, less likely to get recommended treatments

Study highlights:

- Compared to patients without prior heart disease, those who previously had blocked arteries were more likely to die in the hospital.
- Patients with previous heart disease also received three guideline-recommended treatments – cholesterol-lowering drugs, anti-smoking counseling and ACE inhibitors – less frequently than patients who had not had heart disease.
- Two treatments – aspirin and beta blockers – were prescribed the same across the board.

DALLAS, Aug. 3, 2009 – Heart disease patients with previous atherosclerosis (fat deposits in the walls of the arteries) are more likely to die in the hospital and less likely to be treated with recommended therapies, researchers report in *Circulation: Journal of the American Heart Association*.

Researchers analyzed data from the American Heart Association's Get With The Guidelines - Coronary Artery Disease database to determine whether compliance with quality of care treatment for heart disease was associated with the extent of prior vascular disease. They examined records from 143,999 patients hospitalized in 438 facilities between 2000 and 2008.

Overall in-hospital mortality for all patients was 5.3 percent, but those who had previous artery blockages were more likely to die while hospitalized than those who had no prior vascular disease.

They were also less likely to undergo surgery to clear their new blockages, had longer hospital stays and received cholesterol-lowering drugs, counseling to stop smoking and angiotensin-converting-enzyme (ACE) inhibitors for left ventricular dysfunction less often.

"The results are surprising," said Emmanouil S. Brilakis, M.D., Ph.D., lead author of the study and director of cardiac catheterization laboratories at Veterans Administration North Texas Healthcare System. "Patients with prior atherosclerosis have a higher risk for complications compared to those without prior atherosclerosis. Therefore, one would expect them to be more likely to receive these evidence-based treatments."

However, researchers found that these patients were only more likely to receive aspirin within 24 hours of admission and a beta blocker prescription at discharge. Across the board, patients in the study received aspirin 92 percent of the time and a beta blocker prescription 94 percent to 95 percent of the time, regardless of prior vascular disease.

“All interventions examined in the current study are proven to improve morbidity and mortality and are included in the current American Heart Association and American College of Cardiology guidelines,” Brilakis said. “However, some of the therapies, such as aspirin, are easier and cheaper to administer with very few contraindications and side effects compared to other treatments such as cholesterol-lowering therapy and ACE inhibitors. This may explain why use of aspirin and beta-blockers in our study was similar in patients with and without prior atherosclerosis.”

With some of the other treatments, the likelihood of their use was inversely related to the number of prior blockages. For example, patients with no areas of previous blockages received smoking cessation counseling 90 percent of the time, those with one area received the counseling 88 percent of the time; two areas 85 percent of the time; and three areas 79 percent of the time. Researchers found a similar decline in the administration of cholesterol-lowering drugs, from 89 percent for zero previous blockages to 77 percent to three prior areas of blockage.

Patients who had prior vascular disease were older and suffered from more diseases, which may be why they're given the recommended treatments less often, Brilakis said.

Researchers also found that patients with previous artery blockage were more likely to suffer from high blood pressure, diabetes and have had earlier incidence of stroke and heart failure than those without prior artery hardening.

Brilakis hopes his research leads to more study on why the treatment difference exists and more patient and physician education to increase use of recommended interventions.

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Editor's note: The American Heart Association/American Stroke Association's Get With The Guidelines program helps hospitals follow the latest scientific guidelines and manage the care of cardiovascular disease patients. For more information, visit www.americanheart.org/getwiththeguidelines.

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