

Aspirin saves lives of cancer patients suffering heart attacks, despite fears of bleeding

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Many cancer patients who have heart attacks often are not treated with life saving aspirin given the belief in the medical community that they could experience lethal bleeding. Researchers at The University of Texas M. D. Anderson Cancer Center, however, say that notion is now proven wrong and that without aspirin, the majority of these patients will die.

Researchers say that their study, to be published in the February 1, 2007 issue of the journal *Cancer* and now available online, turns common medical assumptions upside down and will likely change medical practice for cancer patients. Because aspirin can thin blood and cancer patients experience low platelet counts and abnormal clotting, physicians view aspirin as a relative contraindication. Given that blood platelets are responsible for the clotting process, physicians do not eagerly prescribe aspirin as a standard treatment.

In this study, however, the investigators found that 9 of 10 cancer patients with thrombocytopenia (low platelet count) who were experiencing a heart attack and who did not receive aspirin died, whereas only one patient died in a group of 17 similar cancer patients who received aspirin. They also found aspirin helps cancer patients with normal platelet count survive heart attacks, just as it does for people without cancer.

"The notion that heart attacks in patients with low platelets should be

treated with clot-dissolving aspirin defies logic, that is unless you suspect that the cancer is interfering with platelet function," says the study's senior investigator and author, Jean-Bernard Durand, M.D., assistant professor in the Department of Cardiology at M. D. Anderson Cancer Center.

"We believe tumors may be releasing chemicals that allow the cancer to form new blood supplies which makes blood more susceptible to forming clots." Durand, a heart failure specialist, says. "There appears to be a platelet paradox suggesting that cancer may affect the mechanism of the way that blood clots, and from this analysis, we have found that the single most important predictor of survival in these patients is whether or not they received aspirin." Durand says more research is needed to better understand this contraindication.

According to the World Health Organization there are approximately 10 million cancer patients worldwide, of which 1.5 million may develop blood clots during their cancer treatment and, as such, are at a much higher risk of dying from heart disease if not treated properly. "Now that we have this study, it would be a travesty if you survive treatment for cancer only to die of a heart attack soon thereafter," Durand says.

According to Durand, no guidelines currently exist for treatment of heart attacks in patients with cancer. He says that physicians are especially perplexed about what to do for cancer patients with thrombosis (blood clots), a condition that affects about 15 percent of all cancer patients and can be due to the use of chemotherapy or the presence of cancer.

Durand came to M. D. Anderson in 2000 to start the Cardiomyopathy Services, which is believed to be the only program in the world specifically designed to look at cardiovascular complications caused by chemotherapy treatment. He is also the co-founder of CONQUER (Cardiology Oncology International Quest to Educate and Research

Heart Failure in Cancer), a newly created organization with goals of increasing the success of chemotherapy by reducing cardiovascular disease as a barrier and long term risk.

He and anesthesiologist Mona Sarkiss, M.D., Ph.D., made the observation that patients with thrombocytopenia who suffered a heart attack and were being treated in the intensive care unit at M. D. Anderson tended to die more often when they were not given aspirin. However, they noted that some of the patients given aspirin and/or beta-blockers had "great" clinical outcomes. "Because no practice guidelines exist, physicians were treating their patients with great variability and the disparity was obvious," Durand says.

Sarkiss, who is the study's lead author, Durand, and a team of researchers which included investigators from Baylor College of Medicine and Duke University Medical Center, conducted a retrospective analysis of cancer patients treated for heart attacks at M. D. Anderson Cancer Center in 2001. These 70 patients were divided into two groups based on their platelet counts, and data was collected on the use of aspirin, bleeding complications, and survival.

They found that heart attack patients with low platelets who did not receive aspirin had a seven-day survival rate of 6 percent, compared with 90 percent survival in those who received aspirin. Dr. Durand notes that there were no severe bleeding complications in patients who used aspirin. Conversely, patients with low platelet counts who formed a blood clot and were not exposed to aspirin died.

The beneficial effect of aspirin also was seen in patients with normal platelet counts. Seven-day survival was 88 percent in aspirin-treated patients as compared to 45 percent in patients who did not receive aspirin, the researchers found.

Durand observed that these deaths rates are abnormally high. "In the non-cancer patient with acute coronary syndrome anywhere in the United States, an expected seven-day mortality is less than 1 percent," he says.

There were parallel findings for those patients in either group who were treated with beta-blockers, which block the heart's use of adrenalin. The protective effect was not as strong as seen with aspirin, but was still life saving.

In those patients with a normal platelet count, 91 percent survived seven days when treated with beta-blockers, whereas 36 percent survived if they were not treated with the agent. In the thrombocytopenic group, 73 percent survived seven days when treated with beta-blockers, whereas only 13 percent survived if they were not treated.

Source: University of Texas M. D. Anderson Cancer Center

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