Patients with Advanced Cancer who Experience Sudden Cardiac Arrest Have Significantly Lower Survival Rates Compared to Patients without Cancer

New Data from Hospitals Can Help Guide Advanced Cancer Care Planning

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ASCO Perspective

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“This study reinforces the fact that doctors need to have early and frank discussions with their patients about end-of-life care. While in some cases it may be appropriate to attempt to resuscitate people with advanced cancer, patients should know all the facts and understand their options ahead of time. Greater substance is given to our sometimes-difficult discussions with patients and their families when we are able to present data such as this.”

Researchers found that the survival rate of patients with advanced cancer who have cardiac arrest in a hospital setting is about half that of patients without advanced cancer. Although patients in the study with advanced cancer more frequently had “do not resuscitate” orders after their cardiac arrest than those without advanced cancer (55.6% versus 43%), this does not fully explain the survival differences. This new study was published today in the Journal of Oncology Practice (JOP).

“An advanced cancer diagnosis is one of the most difficult situations patients and families can face in part because of the gravity of the decisions that have to be made. Reliable and
evidence-based information can help patients make more informed decisions about resuscitation, especially those who don't have effective long-term treatment options,” said study author Jeffery Bruckel, MD, MPH and Fellow in Cardiovascular Medicine at the University of Rochester.

**About the Study**

Researchers studied the records of 47,157 adults from 369 hospitals throughout the nation who suffered in-hospital cardiac arrest from April 2006 – June 2010 within the American Heart Association's “Get With The Guidelines—Resuscitation” registry. The retrospective cohort study evaluated resuscitation quality and survival by comparing rates of return of spontaneous circulation (ROSC) and rates of survival to discharge between those with and without advanced cancer. The cohort’s comprehensive analysis also compared the duration of resuscitation efforts in addition to other resuscitation measures.

**Key Findings**

Though previous research has assessed survival in advanced cancer patients, no prior study has evaluated cardiac arrest survival in a large nationwide cohort of patients. This study was a way to look at this issue on a broad scale, and its results are further strengthened by the use of a robust standardized registry.

Overall, this study found that patients with advanced cancer have lower survival to discharge rates following in-hospital cardiac arrest compared with those without advanced cancer:

- Unadjusted ROSC rates were 57.5% in patients with advanced cancer compared with 63.0% in those without advanced cancer while survival to discharge was 9.6% versus 19.2%.
- Overall, 29,329 patients (62.2%) achieved return of spontaneous circulation (ROSC), and 8,431 (17.9%) survived to hospital discharge.
- Among 47,157 patients suffering in-hospital cardiac arrest, 6,585 (14.0%) had a diagnosis of advanced cancer at the time of cardiac arrest.
- Patients with advanced cancer had a 7% lower likelihood of achieving return of spontaneous circulation than patients without advanced cancer (52.3% versus 56%).
- Patients with advanced cancer also had a 45% lower likelihood of surviving to hospital discharge compared to patients without advanced cancer.

**Next Steps**
The study authors believe the next step in advancing the research is to gather data on the types of cancer diagnosis and treatment plans of patients who undergo in-hospital cardiac arrest. Dr. Bruckel also believes it is important to know how patients feel about this data and how both patients and physicians are using this data in decision-making.

“A large component of end-of-life care involves patient and family care decision-making and a lot of that is driven by the routine discussions that we have,” said Dr. Bruckel. “Not every patient is going to want detailed information, but for those that do, it’s important to have it—it’s important to tell them what we know.”

This article is part of an upcoming special series in the *Journal of Oncology Practice* on Ethics in End-of-Life Care.

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