Better Guidelines Needed for Cancer Survivorship Management

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A new study addresses a vexing issue facing clinicians, namely is it possible to establish standards for when the follow-up care of patients with cancer should transition from their oncologists or other specialists and back to the patients’ primary care physicians?

Because there never have been firm answers or timetables, a recent longitudinal, observational study examined objective criteria to determine when resources and leadership ideally should shift from the patient’s medical oncologist, radiation oncologist, oncologic surgeon, or other specialists to the primary care clinician (JAMA Oncol; doi: 10.1001/jamaoncol.2018.2761 [published online ahead of print June 2, 2018]).

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Study Details
A total of 2,317,185 patient records with 66 primary tumor types from the National Cancer Institute’s Surveillance, Epidemiology, and End Results (SEER) database were evaluated. The median age of the patients was 63 years, and 49.8% were female. The excess mortality hazard, calculated as an annualized mortality risk above a baseline population, was plotted over time.

Durations of high-risk surveillance ranged from less than 1 year for breast, prostate, lip, ocular, and parathyroid cancers to 19 years for gastrointestinal cancers. The annualized mortality gap, representing the excess mortality in the stable period, ranged from a median of 0.26% (for thyroid cancer) to 9.33% (for hypopharyngeal cancer).

The survivorship period is unique to different tumor types, but clusters into 6 distinct groups. “The lowest risk group quickly returns to a stable mortality risk and carries little increased mortality at baseline,” says Dr. Sood, “while higher risk clusters take longer to return to a stable mortality risk, and can have a persistently elevated mortality risk.”

The 6 risk cluster groups are as follows:

- **Group 1:** median survival of 16.2 years (5th to 95th percentile range [PR], 10.7-40.2 years) and median high-risk period of 2.5 years (PR, 0-5.0 years).
- **Group 2:** median survival of 8.3 years (PR, 5.1-23.3 years) and median high-risk period of 2.5 years (PR, 4.0-8.0 years).
- **Group 3:** median survival of 2.8 years (PR, 1.4-3.7 years) and median high-risk period of 7.0 years (PR, 6.0-11.1 years).
- **Group 4:** median survival of 1.6 years (PR, 1.5-1.8 years) and median high-risk period of 6.0 years (PR, 5.1-11.4 years).
- **Group 5:** median survival of 0.8 years (PR, 0.5-1.2 years) and median high-risk period of 0.8 years (PR, 0.5-1.2 years).
- **Group 6:** median survival of 0.5 years (PR, 0.4-0.8 years) and median high-risk period of 12.0 years (PR, 9.3-12.9 years).

The researchers reported that their analysis of selected tumor types in these groups found that stratifying based on disease stage and histologic type occasionally changed the risk clusters and guidance for care quite substantially. For example, men
with localized prostate cancer had a high-risk surveillance duration of less than 1 year and a mortality gap of less than 1%, whereas the corresponding values for men with distant disease were 16 years and 9.4%, respectively. Similarly, the high-risk surveillance durations for women with localized or distant breast cancer were less than 1 year and 17 years, respectively.

Study Strengths and Weaknesses

Kevin Oeffinger, MD, founding director of the Duke Cancer Institute Center for Onco-Primary Care and director of the Duke Cancer Institute Supportive Care and Survivorship Center in Durham, North Carolina, applauds the researchers’ approach to this important question and says there are some important strengths to their study. “First, reporting cause-specific mortality allows one to distinguish between high-risk groups due to a risk of recurrence (or progression of disease) versus risk due to subsequent malignancies or cardiovascular disease. The use of SEER provides a population-based perspective. And finally, the use of a cluster analysis was a novel way to delineate cancer groups.”

However, Dr. Oeffinger also notes several limitations to the study that affect its clinical usefulness and does not believe clinicians should use this study’s risk strata in the form presented for deciding when to transition survivors to a primary care-based model. “As acknowledged by the authors, the analysis did not include hematologic cancers [and]...provide guidance only for solid tumors.”

Dr. Oeffinger says a more important limitation was including individuals diagnosed between 1973 and 1993. “Roughly half of the sample [was] diagnosed and treated during an era in which radiotherapy was more commonly used and with wider fields and higher doses, before risk-adapted therapy was introduced, and prior to major advances in supportive care. Individuals with cancer diagnosed during these 2 decades, in contrast with those treated with more contemporary approaches, were more likely to experience a recurrence, progression of disease, death due to infection, and indeed even radiation-related second malignancies.”

Another limitation, according to Dr. Oeffinger, is that, “...while separating by cancers, particularly when incorporating stage, is helpful in evaluating risk of death due to the primary cancer, the lack of detailed treatment information limits the utility of the findings regarding risk of subsequent malignancies and cardiac disease. Linking SEER with Medicare data overcomes some of this limitation by adding an additional level of treatment detail. Lastly, a focus solely on mortality misses serious morbidities that are important in the development of risk-stratified models of survivorship care.”

Although Dr. Sood agrees that, “...additional studies are needed,” he believes the study’s main message, “that the length of high-intensity follow-up with oncologists could be tailored based on the patient’s tumor type and stage,” can help oncologists and generalists in planning survivorship care for their patients.

“This is an important starting point,” says lead author, Robert L. Dood, MD, MSCE, a gynecologic oncology fellow at The University of Texas MD Anderson Cancer Center. “There may very well be other aspects of a patient’s history that could be considered.” Dr. Dood says other areas in which researchers are focusing include histological subtypes of cancer and outcomes, “and also, to take a more detailed look at causes of death in cancer survivors.”

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