Post-treatment surveillance frequency not related to improved lung cancer patient survival

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Cancer treatment continues to improve for many types of cancer, leading to increased life expectancy for many survivors. In fact, the number of cancer survivors is expected to reach nearly 18 million within the next decade in the U.S.[1] For survivors of non-small cell lung cancer (NSCLC), the most common type of lung cancer, their outcomes are improving too: the number of survivors is expected to grow 20 percent by 2022.[2] Imaging is a common component of surveillance for these survivors, but the guidelines regarding the type, frequency, and intensity of imaging vary across different organizations.

As part of a special study by the Alliance/American College of Surgeons Clinical Research Program (ACS CRP) and the Commission on Cancer (CoC), one group of researchers looked at the association between surveillance intensity and postoperative survival. They found that more frequent surveillance imaging was not associated with improved overall survival, or post-recurrence survival, for patients with NSCLC. Study findings are published in the October issue of *Annals of Surgery*.

In the last several years, there has been an increased focus on the experience of cancer survivors, but questions remain about the course of action that physicians should take for these patients following the active treatment phase of their disease, said Benjamin D. Kozower, MD, MPH, FACS, a professor in the division of cardiothoracic surgery at Washington University School of Medicine, St. Louis, Mo., and the

study's senior author. "An important part of this survivorship experience for cancer care is, how often should physicians be seeing people who are otherwise doing well?"

Since there is a lack of high-level evidence, practice guidelines for NSCLC surveillance are based on small retrospective analyses and expert opinion, Dr. Kozower explained. Therefore, his research team embarked on this study with the goal of gathering better evidence to guide future surveillance recommendations.

These lung cancer findings are only one portion of the larger collaborative study, which also focuses on post-treatment surveillance for breast, colon, and prostate cancers. The larger study was funded by the Patient-Centered Outcomes Research Institute, sponsored by Alliance Foundation Trials, LLC (AFT), and utilizes data from the National Cancer Database (NCDB), which is jointly sponsored by the American College of Surgeons and the American Cancer Society.

The researchers collected the data by selecting up to 10 patients from each CoC-accredited facility who underwent operations for stages I-III NSCLC between January 2006 and December 2007. These patients were followed through December 2012, or until the first diagnosis of recurrence, new primary cancer, or death. Registry staff abstracted information on perioperative comorbidity, postoperative imaging and its indication, first lung cancer recurrence, and diagnosis of new primary cancer. Staff also obtained records from outside the facility where initial data entry occurred. The newly abstracted data were merged with corresponding NCDB records, de-identified, and transferred to the research team, study authors reported.

The team used imaging history and surveillance indication data to place patients surveilled with CT scans into three intensity groups: three-month (1,614 patients), six-month (1,999 patients), and annual (850 patients),

which correspond to major guideline recommendations. In a parallel regression comparing the 3,165 patients in the three-month and six-month groups who were alive and cancer-free nine months after their operations, more frequent surveillance showed no survival benefit. In this cohort, 10.6 percent of patients developed a new primary cancer, and 28.9 percent experienced a recurrence. These rates were consistent between the two groups, the authors reported. More recent pre-recurrence imaging was not associated with post-recurrence survival, and patients who had gone more than 14 months without imaging were at no greater risk of death.

Study results were not surprising to the researchers, who hypothesized that surveillance intensity was not associated with survival. However, Dr. Kozower said the results would probably surprise the majority of patients undergoing lung cancer surveillance, as well as some physicians.

"Patients really believe that if they see a physician every three months for their CT scan, that if they have a cancer recurrence, we'll be able to find it very early and make it go away. Unfortunately, in the majority of cases for lung cancer recurrence, that's not the case," Dr. Kozower said. "Lung cancer recurrence has a poor prognosis, so the idea that finding it early means a physician can successfully treat it does not hold true."

These findings led study authors to recommend that at least annual surveillance is appropriate for NSCLC survivors, and there is no benefit to more frequent surveillance than every six months, which has now become the practice at Dr. Kozower's institution. "It will be very important for physicians to be honest with their patients so they understand that more frequent surveillance will not benefit them," he said.

Looking forward, Dr. Kozower said there are elements of lung cancer care that are improving. More early stage lung cancer patients will be

identified because screening programs are becoming more widely used. As a result, there will be more patients in the survivorship phase of care that will need long-term surveillance. Additionally, physicians are still figuring out the full potential of immunotherapy, which was not available when the patients in this study were treated. These two advances make for "a really exciting time for lung cancer care," Dr. Kozower said, adding that "these findings may provide the best evidence to date for lung cancer surveillance. Although a prospective trial would be the most rigorous methodology to study this question, funding agencies have not wanted to spend the money for such a trial."

More information: 1. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2016. CA: a cancer journal for clinicians. 2016;66(1):7-30.

2. American Cancer Society. Cancer prevalence: How many people have cancer? Available at: www.cancer.org/cancer/cancerba … cs/cancer-prevalence. Accessed September 7, 2018.

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