being assigned. Suggesting that such a metric should be used to compare institutional performance is faulty without further granularity in the data.

I laud the authors on a fine statistical analysis and article; unfortunately, they started with a data set with substantial limitations when it comes to evaluation of lung cancer patient outcomes, thus compromising their conclusions. The authors have asked a very relevant question that warrants further investigation. I am very concerned that most thoracic surgeons are unaware of the substantial limitations present in the NCDB and other large databases and that, combined with a propensity to simply skip over the well-hidden limitations paragraph presented in articles, prevents readers from truly understanding the fallibilities of such analyses.

See Article page 265.

Commentary: Waiting is among the great arts (or rather, why oncologic programs should be rated on long-term outcomes)

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The article by Hennon and colleagues¹ piqued our interest because the authors addressed a topic with several meaningful implications for both patients and health care providers. Assuming that established criteria for ranking cancer centers are based on short-term outcomes, they seek to understand if those correlate with long-term outcomes. Indeed, long-term results better depict the likelihood of being cured

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CENTRAL MESSAGE

Perioperative outcomes only partially describe the efficiency of oncology-centered surgical programs and those should always be coupled with long-term outcomes, otherwise ranking might be misleading.

by cancer, rather than just surviving surgery. With modern advances in perioperative management and minimally invasive surgery, risk of death is significantly lower than in the past, so metrics should reflect more quality of life and avoid recurrences. Shifting the focus from short-term to long-term outcomes is a milestone because it affects the criteria used both by patients to select cancer centers and also by hospital administrators to obtain a better rating. Remarkably, by

choosing to evaluate long-term results in both operated and nonoperated patients, the authors move attention from mere surgical to the whole oncologic program efficiency.

We would like to address a couple of issues. First, rating a surgical department's efficiency solely on short-term results may give rise to deliberate or unintended bias. Indeed, excluding from surgery the most challenging cases or adopting less demanding solutions (such as the most innovative thoracoscopic approaches or number of lymph nodes removed) could promote centers characterized by a risk averse conservative profile. This article, underlining that short-term perioperative outcomes do not correlate with long-term ones, warns final users (patients and administrators) not to underestimate this point.

For example, patients not familiar with complex health care issues might inappropriately base their choice on flawed data and, paradoxically, centers where conservative surgery is preferably practiced would be rewarded, denying a potentially curative intervention. This bias is probably mitigated when comparison occurs among high volume centers where surgical indications are hardly made on the basis of criteria oriented to avoid the most challenging surgeries.

The second issue is the role of surgery in multimodality management of lung cancer. Despite the fact that the authors do not have data to explain the lack of correlation between perioperative outcomes and overall long-term survival, it is likely that results may have been influenced by whether it was considered a multidisciplinary approach

or not. For example, it is known that induction chemoradiotherapy and surgery correlate with better survival, but at the same time perioperative morbidity and mortality are higher, especially when pneumonectomy or complex resections are needed.² This shows how high volume and specialized centers, dealing with more complex cases, can offer the patients greater chances of long-term survival but could be plagued by greater perioperative morbidity, as well. Otherwise, alternative therapies (eg, stereotactic body radiation therapy and thermal ablation) availability sometimes leads to good survival without necessarily considering surgery.³

This article showing that successful patient management is not only a matter of good results in the immediate postoperative period, but also of the organizations providing public information. Despite the facts that patients almost never have access to the full spectrum of information, we should make them aware that in choosing a hospital, high volumes matter.

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