review. However, by relying on the CT reports as documented and sent to referring physicians, we believe that our method is clinically relevant to referring physicians who must decide whether to refer these patients for surgical or oncologic evaluations and to surgeons who must decide what to do with these SNs.

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EDITORIAL COMMENTARY

The prevalence and fate of secondary nodules found in patients undergoing resection for lung cancer

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See related article on pages 19-24.

Thoracic surgeons have long dealt with secondary nodules found on initial imaging in patients being evaluated for resection of lung cancer. Patients who are deemed surgical candidates are often given “the benefit of the doubt,” when surgeons consider these secondary nodules to be either benign or second primary, rather than metastatic, and proceed with the planned resection. Due to the lack of data supporting this practice, whether other medical specialists share this point of view is unknown, as is the number of patients who are not referred for surgical evaluation on the presumption that such secondary nodules represent metastatic disease. Herein lies the importance of the article by Stiles and colleagues¹ in this month’s *Journal of Thoracic and Cardiovascular Surgery*. The results of this study confirm what thoracic surgeons have long suspected: secondary nodules are common; only a small proportion are metastatic; and surgery should not be denied for an

otherwise good operative candidate, owing to the presence of secondary nodules.

The prevalence of nodules or a “positive” initial scan, reported by the National Lung Screening Trial,² was 27%, with 3.8% of these nodules ultimately determined to be malignant. The higher prevalence found by Stiles and colleagues,¹ of 57% of secondary nodules, is therefore not surprising, as the cohort studied represents a subset of even higher-risk patients—those already diagnosed with lung cancer. Ultimately, 13% of these secondary nodules were determined to be malignant, with 9.5% being second primary lung cancer, and only 3.6% being metastatic from the dominant nodule or cancer, with all metastatic nodules being ipsilateral in location. Overall survival was not different between patients with and without the presence of secondary lung nodules seen on initial scan, likely because of the small percentage of secondary nodules that represented metastatic disease.

In addition, Stiles and colleagues¹ performed multivariate analysis for factors associated with a malignant secondary nodule, the results of which were not unexpected. When both ipsilateral and contralateral secondary nodules were considered, size and laterality were associated with malignancy. When only ipsilateral secondary nodules were considered, size and location (within the same lobe) were associated with malignancy. In the final analysis, the most important result presented by Stiles and colleagues¹ seems to be the fact that, despite the high prevalence of secondary nodules found in patients presenting for lung

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cancer resection, very few are metastatic from the dominant nodule or cancer.

This study by Stiles and colleagues¹ does have several limitations. The study population represents a highly selected, small cohort of surgically resected patients, and surgeon bias is unavoidable during the decision to proceed with resection of a secondary nodule. In addition, 2-year imaging follow-up may not be sufficient for pure ground glass nodules. In the analysis, nodule is used as the denominator rather than patient, and multivariate analysis for factors associated with metastatic secondary nodules (rather than for only malignant secondary nodules) is not available. Finally, there is a lack of detail regarding the extent of resection for secondary nodules.

However, despite these weaknesses, the study is an accurate representation of current clinical practice, and the importance of this study lies in the epidemiologic data

presented. The fate of secondary nodules is now clearly revealed: The vast majority will not be metastatic disease. With these data available, resection of the dominant nodule, or of cancer in the presence of secondary nodules, should no longer be regarded as “being aggressive,” but rather as appropriate management with the intent and expectation of curing. In today’s climate of evidence-based practice in medicine, this study by Stiles and colleagues¹ lends support to the approach that thoracic surgeons have long taken when dealing with secondary nodules.

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