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Invited Commentary

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I congratulate Dr. Nishimaki and associates for their interesting, carefully documented, thought-provoking report on superficial "early" esophageal cancer. Their operative results (only 2 postoperative deaths among 89 esophagectomies) are commendable. This study draws immediate attention to one of the several deficits of the currently utilized TNM staging system for esophageal carcinoma: not all tumors staged as T1 have similar biologic behavior. T1 tumors include intraepithelial (EP), intramucosal invasive (MM), and submucosal invasive (SM) carcinomas, but lymph node metastases are rare with EP and MM tumors and not with SM tumors. The authors report no lymph node metastases in any of their EP or MM tumors, whereas 41% of the SM tumors (24 of 88) had at least a few lymph node metastases (92% had three or fewer positive lymph nodes). In addition, SM carcinomas were significantly larger and had significantly more circumferential spread, intraductal microscopic spread, and vascular invasion than the EP or MM tumors. As might be anticipated, the disease-specific survivals for patients with EP and MM carcinomas were 100% at both 3 years and 5 years, and those for SM cancers were 71% at 3 years and 64% at 5 years, respectively. These data, which demonstrate the different clinical characteristics of mucosal (EP and MM) versus submucosal (SM) carcinomas, are viewed by the authors as justification for their recommendation that surgical therapy for these tumors should be different. They propose that lymphadenectomy is not needed for mucosal cancers, for which a transhiatal esophagectomy or even a limited mucosal resection is adequate. For those invading the submucosa, however, a transthoracic esophagectomy is indicated. If the tumor is in the upper esophagus, a bilateral cervical and mediastinal lymphadenectomy should be performed; for lower esophageal tumors, a mediastinal and abdominal lymphadenectomy; and for midesophageal SM carcinomas, bilateral cervical, mediastinal, and abdominal (three-field) lymphadenectomy.

Such recommendations, in my opinion, represent quantum and unjustified extrapolations from the available data.

As a long-standing proponent of transhiatal esophagectomy for esophageal carcinoma, I find the suggestion that we treat systemic disease surgically untenable and passé. We have witnessed the age-old golden tenets of the Halsted radical mastectomy for breast carcinoma crumble under the scrutiny of controlled, prospective, randomized comparison with less extensive operations. The concept that the *larger operation* (the wider the en bloc resection and the more lymph nodes resected) is the better *cancer operation* has been abandoned by most oncologic surgeons for pancreatic cancer, melanoma, and virtually every neoplasm. The extensive mediastinal lymphatic drainage is responsible for the early spread of most esophageal cancers and their dismal cure rate. One has only to look at Table 2 of Nishimaki's report to see the frightening number of nodal metastases even in this patient population with presumed "early" esophageal cancer.

I have serious concerns about the radical surgery recommended by the authors on the basis of their data. Operative therapy in these 89 patients with superficial esophageal carcinoma was *not* standardized: 52 undergoing transthoracic esophagectomy and 33 transhiatal esophagectomy. In the latter group, the true incidence of lymph node metastases cannot be determined. Did the survival among these two groups undergoing different types of esophagectomy vary significantly? Only 28% of these patients (approximately 30%) underwent three-field lymphadenectomy, so again the true incidence of lymph node metastases in this series is unknown. Postoperative therapy was similarly not uniform: 27 patients with SM carcinoma received adjuvant therapy (chemotherapy, radiation therapy, or both). Therefore it is impossible to determine if the survival obtained reflects the results of operative or systemic treatment. A median follow-up of only 28 months in this group is too short to draw meaningful conclusions about "long-term cure," as metastases from these small T1 tumors may take longer to become evident than with more advanced tumors. Finally, there is no mention by the authors of the *morbidity* of three-field lymphadenectomy when it used as an adjunct to esophagectomy. Is the incidence of postoperative respiratory distress and the need for prolonged mechanical ventilation increased by vigorous dissection of the mediastinal and tracheobronchial

lymphatics? Is the incidence of chylothorax increased? How many patients sustained recurrent laryngeal nerve injury during the process of the bilateral cervical and extensive mediastinal lymphadenectomy, and what is the price of this problem in terms of aspiration and difficulty swallowing postoperatively? What is the length of hospitalization, and how many days were spent in the intensive care after such radical surgery? Is the increased length of hospitalization justified by *truly* improved survival? Is such a radical operative approach worth the effort for an average of three or fewer positive lymph nodes?

In most patients with esophageal cancer, lymphadenectomy can diagnose tumor stage; it is *not* therapeutic, as implied by the authors. The *real* problem is that by the time we begin to "stage" esophageal cancer on the basis of clinicopathologic findings, regardless of how "early" a tumor we diagnose, the genetic changes that induced that tumor have already occurred, and we are *not* dealing with "early" carcinoma, even with T1

lesions. It is time to stop counting lymph nodes when assessing the merits of therapy for esophageal carcinoma. As we continue to identify the genetic events responsible for the development of esophageal carcinoma, we may soon have the ability to detect the critical genetic markers indicative of impending malignant degeneration in high risk patients. Specific gene therapy may then be directed at truly *early* premalignant change. Until this becomes a reality, our survival data obtained with transhiatal esophagectomy support our current approach. If the esophageal carcinoma has not metastasized, it will likely be cured by transhiatal esophagectomy. If metastases have occurred, however, esophagectomy alone, regardless of how many lymph nodes are removed, is unlikely to achieve cure. Again, I congratulate Nishimaki and associates for this fine report. For me, however, if you will pardon the pun, their recommendations are hard to swallow.