The Lung Cancer Dilemma

To the Editor:

I greatly enjoyed the article by Dr Benfield,1 which appeared in the August 1991 issue of Chest, particularly his challenge to "abandon tradition in favor of current evidence and approaches." We certainly need new approaches. To quote him, "the opportunity lies in the fact that we have mastered the surgical and radiotherapeutic methods necessary for local control." This mastery applies to surgery alone or to radiotherapy either alone or after surgery. The optimal combination of radiotherapy followed by resective surgery has not been explored. We have not been able to agree to try to treat non-small cell lung cancer with the logical and theoretically best combined therapy of modern full-therapeutic-dose radiotherapy followed by modern resective surgery.

I have two suggestions that might profoundly alter our thinking and may greatly improve our long-term results in locally advanced non-small cell lung cancer. First, I am personally convinced that modern preoperative radiotherapy can allow the surgeon to resect residual viable nodal and primary disease with long-term survival with a reasonable complication rate (morbidity and mortality). Second, manipulative trauma tends to spread cancer; therefore, invasive diagnostic procedures should be minimized, and manipulative staging should be avoided. The role of trauma in promoting metastases has been noted by Scanlon and Murphy.4

Radiotherapy and surgery, in that order, are complementary. Radiotherapy works best at the rapidly growing periphery of the primary tumor, where there is no necrosis and the blood supply is best. Also, radiotherapy is best for treating minimal microscopic and macroscopic lymph node spread. Surgery, on the other hand, is employed optimally where the primary tumor is confined to the lung and where lymph node involvement, if any, is minimal.

My radiotherapy colleagues tell me that radiotherapy, as used today, should consist of continuous-course small fractions (175 to 200 cGy) involving the primary tumor and the area of spread from the lung either via direct extension or lymph nodes, using computerized dosimetry, progressively reduced fields, and multiple ports, so that a large total dose is reached (5,500 to 6,500 cGy). This format in itself can sterilize some advanced tumors. Surgery, on the other hand, should be used after such radiotherapy to remove the residual primary tumor with direct extension spread and residual unsterilized lymph nodes. Surgery and radiotherapy are both, by themselves, curative modalities, whereas chemotherapy and immunotherapy are not yet in themselves curative in non-small cell lung cancer, but can be added when better drugs are discovered.

In my own practice since the early 1960s, I have seen large-dose preoperative radiotherapy produce long-term survival. Kischner5 had 20 percent long-term survival in T3 patients with proved N2 disease. Holmes and Ruckdeschel,4 in writing about the preoperative regimen with 5-fluorouracil, cisplatin, and radiotherapy, state that "one could compare this regimen either with radiotherapy alone with 50-60 Gy or with the same dose of radiation preceded by chemotherapy. It is our opinion that the community standard remain radiotherapy alone" [preoperatively]. As far as I know, this is the only mention in modern literature of the possibility of modern-dosage preoperative radiotherapy being tried.

Employing nonmanipulative, noninvasive scans to rule out distant spread and separating most locally advanced patients as to N1, N2, and N3, as well as T2, T3, and T4, disease might prevent further nodal or bloodstream spread, allowing preoperative radiotherapy and surgery to increase long-term survival. How does manipulative staging help the patient? After all, is it to the patient's advantage to know whether mediastinal nodes are involved if it is not going to alter the therapy? If there accrued only a small improvement in long-term results with use of the above idea, many patients would be saved, since the majority of cases of non-small cell lung cancer are advanced. Is it logical to use mediastinoscopy or anterior or conventional thoracotomy for staging to find only a few patients whose disease is primarily surgically resectable and also curable (resectable and curable are not the same).

Trials employing these two suggestions would take years to implement. Meanwhile, most patients with curable locally advanced disease are being sent to the radiotherapist, having been invasively staged, and never are considered for potentially curative surgery afterwards because the surgeon does not want to try to operate for cure after full-dose preoperative radiotherapy. Our present management of locally advanced non-small cell lung cancer is not good. Isn't a try of something new indicated?

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The patient made an uneventful recovery with usual therapy for bronchial asthma. Clinical features, electrocardiography, plain radiographs of the chest, and echocardiography did not reveal any evidence of cardiac or pericardial disease.

Electrocardiographic electrical alternans is associated with pericardial effusion or myocardial disease. In the latter, it indicates an adverse prognosis.1,3

The mechanism causing an appearance resembling electrical alternans in this patient is probably uncommon; it has not been previously reported. Nevertheless, if electrical alternans is encountered in a patient whose heart rate is exactly twice his respiratory rate, the simple bedside maneuver described above may prevent diagnostic and prognostic confusion. Recently, the value of clinical information in the interpretation of ECGs in patients with suspected myocardial infarction has been questioned.4 This case shows how clinical correlation, as well as the presence of the interpreter when the ECG was being recorded, dramatically altered the interpretation of an ECG abnormality.

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