would be of interest.

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To the Editor:

We agree with the suggestion of Dr. Lavietes that anaerobic metabolism due to poor perfusion of a limb or visceral organ may contribute to an increased carbon dioxide production in a patient with profound cardiac pulmonary edema. Serial measurements of blood lactate obtained in our patient, however, argue against such a mechanism. All lactate values were indeed within the normal range (<2 mmol/L), and failed to show any concomitant change with the increase in carbon dioxide production.

It appears likely, therefore, that the additional carbon dioxide production in our patient originated, at least in most part, in an increased work of breathing.

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Radiotherapy Alone for "Nonoperability"?

To the Editor:

The article by Cooper et al (Chest 1985; 87:299-92) is of great potential value to those of us interested in preoperative pulmonary function assessment. In their study, 46 of 72 (64 percent) of the patients were deemed to be anatomically resectable but physiologically inoperable due to their pulmonary status. It would be interesting to know some quantification of these patients' pulmonary function using FEV$_1$, FEV$_2$, as a percent of predicted, or some other comparable physiologic assessment. These quantitative data could then be compared to published survival statistics of patients with chronic obstructive pulmonary disease alone. As previously stated, it would be helpful to know if any further assessment of physiologic operability was performed, such as quantitative lung scanning or exercise testing. Previously, those patients with severe dysfunction (FEV$_1$ < 2L) as assessed by quantitative lung scan have experienced reasonable survival with resection up to and including pneumonectomy. As admitted by the authors, their findings with relatively low dose radiotherapy (<5000 rads) do not settle the previous debate concerning the efficacy of radiotherapy (>5000 rads) as an alternative to resection.

Gerald N. Olsen, M.D., F.C.C.P.
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REFERENCES
6 Boysen FC, Harris JO, Block AJ and others. Prospective evaluation for pneumonectomy using perfusion scanning. Follow-up beyond one year. Chest 1981; 80:153

To the Editor:

In the March 1985 issue of Chest (1985; 87:299-90), an article appeared by Dr. Joel D. Cooper et al entitled, "Radiotherapy alone for patients with operable carcinoma of the lung." On page 290, there were two figures, one entitled "Survival with thoracotomy for lung cancer" and the other entitled "Survival with radiotherapy for operable lung cancer." I found the figure for survival with thoracotomy for lung cancer particularly confounding. Obviously, the legends for these two figures have been reversed. But more importantly, the numbers in parenthesis in this figure which I assume represent the total number of survivors yield a five year survival of only 14 percent (17 divided by 123) yet all throughout the text the authors refer to a 46 percent five year cumulative survival. I would appreciate some clarification as to this discrepancy. Obviously, this point is a particularly important one to the argument put forth by Dr. Cooper and his colleagues.

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To the Editor:

Dr. Olsen correctly points out that the information presented in the paper cannot be utilized to make a meaningful comparison of surgery versus radiotherapy for identical groups of patients. This was not the point of our article, but rather, we tried to indicate what the results have been when radiotherapy has been utilized as the primary treatment for a group of well-staged patients with operable carcinoma, deemed to be at high risk for surgical resection for other reasons. The paper is really a response to an article published several years ago in the New England Journal of Medicine entitled, "The futility of the five year cure for carcinoma of the lung." That article suggested that, for elderly patients, radiotherapy may provide better results than surgery and utilized what we considered inappropriate data to justify this conclusion. Our publication is meant to do nothing more than to indicate the results of radiotherapy in this very special group of patients. We attempted to make this point clear, and to indicate that our manuscript was not intended to compare surgery versus radiotherapy in general. Nonetheless, it does present documentation of the results of radiotherapy in a well-staged group of patients whose tumor was operable by all of the standards we normally employ prior to undertaking thoracotomy.

Dr. Olsen's letter does point out one fact in our manuscript; namely, the title, which may be misleading. Perhaps a better title for the paper would have been "Radiotherapy alone for high risk patients with operable carcinoma of the lung".

Unfortunately Dr. Nietrzeba is correct that the legends have been mixed up between figures, thus the title of the one "Survival with Thoracotomy for Lung Cancer" has the legend for the opposite figure and vice versa. Fortunately, because each figure is titled, it should be obvious to the reader that there has been a mix-up.

Regarding the numbers in parenthesis, this is standard method of displaying a cumulative survival using the Life Table Method. The numbers in parenthesis shows the number of individuals at risk at each of the periods. In using a Life Table analysis, the 5 year survival is calculated before all patients have passed the 5 year milestone, which is the virtue of using this method. The numbers in parenthesis show the number of individuals entering each year of the analysis. Thus at the end of 5 years there were indeed only 17 patients for analysis, whereas at 2 years there were 55 patients available for analysis etc. The calculated 5 year cumulative survival is indeed 46% as the graph indicates.

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