Staging of Patients with Bronchogenic Carcinoma

To the Editor:

Accurate staging of patients with bronchogenic carcinoma is essential in order to select appropriate therapy and to evaluate prognosis and therapeutic response. Sequential steps have been proposed for the surgical and medical approach to staging. In our view, the purpose of these steps is to provide an accurate estimate of the extent of disease without undue cost or risk to the patient while preventing fruitless and expensive surgical and medical procedures. We submit that for physicians to be cost effective, criteria should be developed to provide guidelines for decisions at each of these steps.

Although we agree with the concept of sequential prethoracotomy staging of patients with bronchogenic carcinoma, we feel that the paper by Mintz et al and the editorial comment by Livingston may represent a step backwards in our evaluation of such patients. There are a number of unwarranted conclusions derived from the report. First, Mintz and colleagues note that all "initial" stage I patients require multiorgan isotope scans. They do not exclude patients from "initial" stage I because of laboratory abnormalities which should raise the suspicion of metastatic disease and thus elevate the presumed stage. We have found, and others have also reported, that detailed history, complete physical examination and routine laboratory studies are equally sensitive as clinical staging using radioisotope scanning of the brain, bone and liver. It is our belief, based on a careful study of 225 patients, that such clinical criteria can identify patients who need isotope studies.

Secondly, Mintz et al imply gallium scanning offers significant promise as a screening tool for metastatic disease; however, we are unable to confirm that finding with the data they supply. Twenty-one of 29 patients with metastatic disease had positive gallium scans and the remaining eight had metastatic disease missed by gallium scan but diagnosed with the only isotope studies. On the other hand, in three patients, gallium scan was the only indicator for metastases. We cannot confirm the importance of the gallium scans in these three patients because we are missing vital information. Detailed history, complete physical examination and routine laboratory data are not available. We are not told the clinical criteria used to arrive at "initial" stage I. We would consider the scans useful only if there were a completely normal initial staging. We suspect that gallium does not add significantly to presently available staging methods. We feel its possible value is limited to the patient with clinical evidence of metastatic disease with negative specific organ isotope studies.

We do not agree that all patients with "initial" stage III M₁ disease established by clinical criteria alone have metastatic disease. Care must be taken to exclude the possibility of a second disease. In such cases, radiographic and isotope studies can be very helpful.

We remain in strong support of adequate staging of patients with bronchogenic carcinoma and support the use of radioisotope scans to verify suspected metastatic lesions and to evaluate any patient with a clinical indication of metastatic disease. We are distressed at physicians taking a step away from the patient and towards more procedures. We are confident that the evidence still states clearly that patients with normal history, physical examination and routine laboratory studies need not be staged further by pre-surgical methods.

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To the Editor:

Our study referred to by Drs. Hooper and Beechler was completed in June, 1977. It attempted to provide a sequential approach to the staging of the lung cancer patients. Further analysis of our results with 67 gallium scanning (DeMeester et al, Ann Thorac Surg 1979; 28:451-464) confirmed that a 75 percent gallium sensitivity rate was obtained for metastatic disease revealed by other scans. In addition, gallium scanning identified 11 of 12 patients with occult disease. We feel that the value of gallium scanning should not be limited only to the patient with clinical evidence of metastatic disease with otherwise negative specific organ isotope studies, as suggested by Drs. Hooper and Beechler, but rather it should be used to screen patients with no symptoms of metastatic disease, as well as a parameter to follow the response to chemotherapy in patients with metastatic disease. In confirmation with the thoughts of Drs. Hooper and Beechler, we too feel there should not be a step away from the patient toward more procedures. Thus, since November, 1977, the only scan we do initially is a gallium. If there is a clinical finding which is not supported by the findings on gallium scan or if there is a suspicious area in the gallium scan, then a specific organ or x-ray film is ordered for comparison and possible confirmation. If necessary, open biopsy is performed to resolve indeterminate findings. If the biopsy is positive, it provides tissue for tumor cell type and confirmation of M₁ disease. In this situation, no further workup is necessary and therapy can begin. With this approach, we find that the goals of sequential staging can still be a reality, yet the direction and cost of staging can be lessened.
To the Editor:

I do not agree with Hooper and Beechler that a history and physical examination plus routine laboratory data are sufficient pre-thoracotomy workup for a patient with apparently localized lung cancer. A recent paper by Kelly et al in JAMA (Efficacy of Radionuclide Scanning in Patients with Lung Cancer; 1979; 242:2855-57) summarizes the case for radionuclide scanning in patients with lung cancer: seven of 38 patients (18.4 percent) with no clinical evidence of metastatic disease to liver, brain, or bone had at least one type of abnormal study at these sites felt to be indicative of occult metastasis. If a minimally elevated alkaline phosphatase level was considered an indicator of metastasis, then four of 41 patients (9.8 percent) had evidence of occult metastasis by radionuclide scans. As in other series cited by these authors, bone scans were by far the most sensitive. It should be noted that gallium scans were not performed routinely in Kelly's series, and I'm sure Dr. Mintz would argue that the performance of this procedure, at least with his "Tomocan" scanner, might increase the yield significantly further. In my own personal approach has been to perform only the technetium bone scan as a "screening" procedure in cancer patients felt to be at high risk for occult metastasis to that site. Whether they will be significantly more valuable than the older scan to justify their routine use remains to be seen.

My own personal approach has been to perform only the technetium bone scan as a "screening" maneuver in the patient with lung cancer which appears potentially resectable by history, physical examination, laboratory tests and chest x-ray film. For patients with large cell anaplastic and adenocarcinoma of the lung, CT brain scan is a recent addition for which I can offer justification only prospectively.

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Lack of Effect of Erythromycin on Theophylline Serum Levels

To the Editor:

In a recent editorial by Van Dellen (Chest 1979; 76:2-3) discussing the use of intravenous aminophylline, the author states that "... the half life (of theophylline) is prolonged in cases of ingestion of troleandomycin and erythromycin." While the inhibition of theophylline clearance by troleandomycin is well documented,1 the effect of erythromycin on theophylline plasma levels is not well defined.

Although some reports have pointed to an increased theophylline plasma level in children with concomitant erythromycin administration,2 a recent study of adult subjects by Pfeifer et al found no consistent evidence of a kinetic interaction between orally administered erythromycin and intravenous theophylline. Additionally, in an as yet unpublished study from our laboratory we found no statistically significant effect of oral erythromycin on theophylline plasma levels in eight normal adult volunteers. Therefore, our preliminary data are not consistent with those of earlier studies, and warrant further examination of the clinical and scientific significance of the potential drug interaction of erythromycin and theophylline.

It would appear that the effect, if any, of erythromycin on theophylline serum levels has yet to be determined.

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References


Persistent Contamination of the Flexible Fiberbronchoscope following Disinfection in Aqueous Glutaraldehyde

To the Editor:

In 1975, Webb and Vall-Spinosa (Chest 88:703-708, 1975) reported an outbreak of Serratia marcescens associated with the flexible fiberbronchoscope. The persistence of Serratia in the bronchoscope was attributed to an ineffective cleaning technique. Adoption of a revised procedure ended the outbreak, and no further infections related to bronchoscopy were identified.

At The New York Hospital Burn Center, we recently recovered strains of Serratia marcescens, Klebsiella pneumoniae, and Pseudomonas aeruginosa from an Olympus fiberoptic bronchoscope after cleaning both according to a method similar to the revised Webb and Vall-Spinosa procedure and the Olympus instructions, including disinfection for 30 minutes in gluteraldehyde (Cidex). Only after an additional 45 minutes in gluteraldehyde did we eliminate the organisms.

Since we obtained the Olympus bronchoscope in 1977, the cleaning procedure has included successive aspiration of 20 percent povidone iodine scrub solution, 50 percent alcohol, and sterile water through the biopsy channel, with air drying by suctioning unfiltered ambient air. After several cultures of the sterile water aspirate were negative for pathogens, routine culturing of the bronchoscope was eliminated.

In December, 1978, the bronchoscope was used on a severely burned patient who had Serratia marcescens, Klebsiella pneumoniae, and Pseudomonas aeruginosa in her sputum and was subsequently cleaned according to the procedure described above. At the time of the bronchoscopic procedure, she was the only patient on the unit with Serratia sensitive to gentamicin and amikacin, all other Serratias being resistant to all antibiotics.

One week after use, sterile water was aspirated through the biopsy channel of the bronchoscope and on culture yielded heavy growth of the same organisms with the same sensitivity patterns as the patient's. The bronchoscope was recleansed and disinfected according to recently released manufacturer's instructions. These included:

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