No Substitute for the Clinician-Teacher

Patients become more impressed daily with the "machinery" of medicine. The traditional physician-healer no longer satisfies the informed layman. Now the public insists that the clinician possess a modern scientific and technical expertise, as well as the customary moral authority. Thus, recent scientific and technological advances in medicine have created new problems related to education, patient care, and dissemination of biomedical information.

Nevertheless, it is my contention that technologic improvements have in no way diminished the necessity for a close relationship between physician and patient. Nowhere is this need greater than in the discipline of cardiology. A meticulous history and physical examination and a close personal relationship with the patient remain the milestones of modern clinical cardiology. Learning at the bedside begins in medical school, continues throughout formal postgraduate training, and should remain a lifetime preoccupation. Clinical cardiologists must learn from a teacher who possesses clinical authority. No written tests, self-assessment, or attendance at lectures can serve independently as a substitute for clinical apprenticeship. In recent years, I have structured postgraduate programs on noninvasive cardiac techniques with the cooperation of colleges and specialty cardiovascular societies. Each course lasts three days and consists of half-day sessions of lectures and half-day workshops involving examination of patients. These participatory exercises make it possible for the physicians to examine the patient clinically and then evaluate (by interpretation of the tracings) noninvasive techniques, such as apicalcardiography, pulses, phonoarteriography, echocardiography, and phonocardiotherapy.

This type of course represents a good initiation in clinical cardiology and noninvasive techniques. Of course, expertise in the techniques can be gained by the participants only after much practice in their offices or in their hospitals. Not uncommonly, internists and cardiologists come to our laboratory from countries overseas for three or six months of training in clinical cardiology and noninvasive techniques. After this type of practical preceptorship, these individuals are able to return and establish laboratories in their countries of origin. Comparable programs are being given on many other campuses and in medical centers throughout the country. These facts suggest that a new sort of practical training in clinical cardiology is gaining popularity.

Surgery for Bullous Emphysema

The report by Harris (see page 658) of successful resection of a large bulla in a patient with severe ventilatory abnormalities raises an important point. Many physicians and surgeons have been unwilling to advise surgery for bullous emphysema, in part because the improvement in values on pulmonary

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Reprint requests: Dr. Zoneraich, Head, Division of Cardiology, Queens Hospital Center, Jamaica, New York 11432

Samuel Zoneraich, M.D.
Jamaica and Stony Brook, NY

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function tests following surgery has not been great in many patients. In view of the fact that clinical improvement and rehabilitation have been shown to occur in almost all moderate to severely symptomatic patients with bullae occupying more than 30 percent of a hemithorax, especially in patients with giant bullae, the subject might bear reconsideration. Those patients with the most functional impairment are those who seem to benefit most from operation. Admittedly, they constitute a group with higher surgical risk; but with good surgical and respiratory care and resection of little or no potentially functional pulmonary tissue, the results are excellent, and the risks are low.

The extent to which values from pulmonary function tests improve following surgery is largely dependent upon the extent to which the bullae contribute to the tests utilized, and this is variable. In many patients the bullae are ventilated, although they constitute a slowly ventilated space. Thus, they contribute to the measurement of vital capacity, and resection of such a bulla and its replacement by more nearly normal pulmonary tissue which has expanded in its place may cause little change in vital capacity. Conversely, as in the present case, when a completely unventilated bulla is resected and the space is filled by previously compressed but potentially more functional parenchyma, vital capacity will increase.

The ratio of the forced expiratory volume in one second to the forced vital capacity (expressed as a percentage) will improve in the former case and does not reflect a true decrease in airway resistance. When a bulla is unventilated, resection will not improve this measurement, as in the present case.

Resection of bullae which are ventilated and expansion of compressed parenchyma, regardless of ventilation of the bulla, will improve the distribution of inspired air, will decrease dead-space ventilation, and, especially in giant bullae with severe parenchymal compression, will decrease intrapulmonary shunting, increase oxygen uptake, and result in increased arterial oxygen tension, as in Dr. Harris' patient.

The demonstration of crowded lobar vessels by pulmonary angiographic techniques gives the surgeon assurance that he is dealing with compressed lung rather than destroyed lung and is an important measure. If pulmonary arterial hypertension exists, it would also be reassuring to ascertain whether or not this pressure will fall toward normal if arterial oxygen tension can be improved by breathing 100 percent oxygen while the catheter is in the pulmonary artery.

The indications for considering surgery in patients with bullous emphysema are broader than is now generally appreciated. With careful preoperative evaluation, judicious selection, and meticulous postoperative care, many patients could be rehabilitated by resection of large bullae.

Donal M. Billig, M.D., F.C.C.P.*
Philadelphia

REFERENCES

Eudowood Fellowship for The Study of Tuberculosis

The American College of Chest Physicians' Eudowood Fellowship for Tuberculosis offers a grant of $2,500 for one year of postgraduate training in tuberculosis for non-American physicians who will return to their homelands. This program is made available through a yearly grant from the Johns Hopkins Hospital for one year of training in tuberculosis in the United States. Candidates must be ECFMG certified and accepted for training at an accredited hospital or institution in the U.S. This program also requires that the candidate be assured of a responsible position in the field of chest diseases when he returns to his own country.

For further information, contact the Eudowood Fellowship for Tuberculosis, American College of Chest Physicians, 911 Busse Highway, Park Ridge, Illinois 60068–312/698-2200