after conscientious review by an investigator who has not been a participant in the clinical experiment described. These procedures are not luxuries, but rather fundamental necessities if publication mishaps are to be prevented.

These observations are not meant to denigrate county, state or regional periodicals. Why should their editorial boards accept inferior research reports when their pages can represent the very best of other journalistic formats (particularly when second best encompasses grave dangers)? Anecdotal clinical observations have their place in medical literature if authors emphasize the limitations of these studies. Review articles offer vital clinical guidance; however, such a task should not be assigned to the neophyte author or to the inexperienced researcher because the preparation of a balanced review is an intricate task. A carefully studied case report remains an important teaching device which should find a receptive readership in regional periodicals. Epidemiologic and communicable disease information of regional character is ideally suited for these periodicals. Feature articles on teaching centers and community hospitals in that area will be of interest to their heterogeneous medical constituency.

Some regional society periodicals may feature a combination of these departments and others may serve primarily as fraternal house organs. In either instance, it is far better to publish a superior feature story or imaginative news report than an inadequately reviewed communication which contains basic defects in the investigation or in the manuscript itself.

The written word remains perhaps the most important single method of continuing education in medicine. It is unfortunate that many professionals are not discriminatory readers. An understanding of the discipline of clinical research is still an unknown entity to many clinicians. We should begin to correct these deficiencies, but this does not absolve editorial boards from the responsibility of adequate editorial review.

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Aortic Valve Disease and Ventricular Function

Recent studies have shown a close relationship between operative mortality and clinical status of the patient with mitral valve disease. With continuing improvement in artificial valve design and in the preparation of homograft valves, earlier operation has been suggested in patients who require valve replacement. The results reported by Liedtke and associates (see page 192) support such consideration of early surgical intervention in aortic valve disease. They noted a reduction in systolic ejection fraction and mean circumferential fiber shortening rate in patients with severe aortic valve stenosis. The patients were grouped according to a systolic ejection fraction greater or lesser than 50 percent. Average valve areas were similar in the two groups. Afterload did not appear to be a major component in separating the groups. Myocardial hypertrophy and fibrosis were found to be major factors in determining left ventricular performance in aortic stenosis. This would suggest that in the presence of severe aortic stenosis, early operation may be helpful in preventing the development of hypertrophy, fibrosis and depression in ventricular function.

Liedtke and colleagues also observed that even when left ventricular contraction and cardiac output were markedly reduced, substantial valvular pressure gradients persisted. This is in contrast to the traditional teachings of the Gorlin valve area equation: low flows across a critical area of stenosis result in low pressure gradients. For example, with an aortic valve area of $0.5 \text{ cm}^2/\text{m}^2$, a cardiac index of 2 liters would result in a pressure difference of only 27 mm Hg. The absence of such observations in the present study raises the possibility that the hydraulic constant used in the Gorlin equation may not be applicable to low cardiac output states. The possibility that no gradient may be present in the face of severe obstruction has also been demonstrated. Studies by Silove and associates have shown that in the presence of severe, fixed left ventricular outflow obstruction, pressure gradients can be abolished by increasing peripheral vascular resistance without producing a decrease in flow. Consequently, the severity of aortic valve stenosis may not be properly assessed in patients with coarctation of the aorta and high pressure in the ascending aorta. Valvular gradients may be absent in patients with severe systemic hypertension, even in the presence of significant aortic stenosis. In some patients with ventricular septal defect and pulmonary hypertension, severe subvalvular pulmonic stenosis may be masked by severe pulmonary hypertension. Such obstructions have been uncovered by using the pulmonary vasodilator tolazoline. Of special interest is a patient reported to have a fixed pulmonary vascular bed and ventricular septal defect who had undergone pulmonary artery banding. Postoperative angiographic studies showed a very tight band, but no pressure gradient because of the persistent high
distal pulmonary vascular resistance. It has also been possible to unmask aortic valve stenosis in patients with systemic hypertension by using a dilator such as regitine. These observations illustrate the limitations of the hydraulic formula and the need for careful overall clinical assessment in evaluating such conditions.

Liedtke and associates also demonstrated the importance of biplane cineangiography of the left ventricle in determining ventricular function and ejection fraction in the presence of associated coronary artery disease. In the absence of documented coronary artery disease, a single plane right anterior oblique (RAO) view could be assumed to be representative for calculation of ejection fraction. However, in the presence of coronary artery disease, segmental abnormalities were encountered and resulted in lower ejection fractions based on RAO calculations as compared to left anterior oblique calculations. This relationship has been well documented in previous studies.

Although cardiac ultrasound procedures proved to be excellent for observing ventricular function on a serial basis, if coronary artery disease is present, ultrasound studies would tend to overestimate the systolic ejection fraction. This occurs because single crystal ultrasound calculations are similar to the left anterior oblique view. In the absence of coronary artery disease, however, cardiac ultrasound would be a reasonable way to follow left ventricular function in serial fashion.

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REFERENCES

Accepting the Challenge of Lung Cancer

The current statistical record of incidence, morbidity, and mortality in lung cancer clearly demands a reassessment of traditional concepts of management for patients suffering from this dread disease.

Attention must properly be directed at all stages of the malignant process, from carcinogenesis, through the establishment of the primary disease, to the final development of a viable systemic component. Failure to prevent the disease requires greater professional involvement in programs designed to lower the smoking rates for all segments of the population. The fact that death following treatment of the primary lesion is usually due to disseminated disease must also stimulate greater interest in prophylactic systemic therapy.

Fundamental though these needs may be, currently available—although usually neglected—techniques offer hope that treatment of the primary lesion at an earlier and more favorable stage in its natural history may be the key that will open the door to initial improvement in the statistical picture.

The clinical observation that survival rates improve so strikingly when the lesion is either asymptomatic or radiologically occult (in comparison with those achieved when one waits for the disease to declare itself) defines an area of management which has not been fully explored as yet.

There are several reasons why screening programs have not been pursued more diligently. In the first place, as is true for all efforts to screen the public for disease which remains asymptomatic, high-risk subjects characteristically fail to utilize the service when it is offered. In order to overcome this reticence, coordinated action must be undertaken by government, the health agencies, and the profession itself so that we may ensure wider availability and provide more sophisticated publicity.

In the second place, single screening techniques have in the past been assessed on their own and all too often found to be wanting. Unfortunately, utilization of the available tests, even in this limited fashion, has also been usually at fault.

Radiologic screening must be repetitive if significant persisting change is to be identified and developing changes pinpointed when they are only