Prologue to Guidelines for Stroke Care

BY OSCAR M. REINMUTH, M.D.

Abstract: Prologue to Guidelines for Stroke Care

This prologue makes clear the factors that provided incentive for creating the Joint Committee for Stroke Facilities to prepare and publish the series of articles appearing regularly in Stroke (beginning with the May-June, 1972, issue), best described by the general title of Guidelines for Stroke Care. It points out in admirable fashion the many facets of the disease and will serve to acquaint the reader with the comprehensive nature of the subjects discussed in the "Guidelines."

One of those fragmentary recollections I carry in my mind is of my Great Uncle Bob, whom I saw only once when I was three or four years old. I was told he had had a stroke years before, and could not speak or use his arm. I recall wondering what he would look like, since I could not conceive of anyone not using his arm or being unable to talk. He was a rugged Scotsman, with a lean face and a surprising twist to the mouth that disappeared when he smiled; his right arm was held tightly against his chest and his fist was closed and positioned strangely. I was misinformed — he could talk, but all he said was "Yes, yes, yes," over and over again. In spite of his smile I was frightened by his appearance, and it shames me to remember that I would not sit on his lap.

Around that vivid and unhappy childish bit of memory the years have gathered much additional information — so much that the problem can no longer be disregarded, like Uncle Bob in his attic room. The blunt fact is that each of us has a high probability of dying of a stroke. The meaning of that term, and the identification of the individual who suffers from it, are distorted in the public mind by association with an extreme example of the stroke patient — an elderly individual already doomed by the devastating effects of vascular disease on the brain and other vital organs.

This stereotype does a repeated disservice to the general understanding of the stroke problem by distracting attention from an impressive catalogue of underlying and treatable diseases that may produce this brain disease in anyone, from the newborn, the infant, the youth, and the young adult to even you and me in the years of our greatest usefulness to family and society. Besides the dismal possibility of the threat of a stroke to all of us, there is another factor to consider — responsibility for the support and care of the stroke victim in our immediate families. Whether it represents a stroke from meningitis in childhood, from head injury, from hemorrhage of a congenital vascular abnormality, or in our elders from atherosclerotic occlusion of a brain vessel, the burden on those involved can be a crushing one, physically, emotionally and financially.

Stroke is set aside from its grim companions in the leadership as causes of death — heart disease and cancer — by another curious contemporary attitude. There still exists an embarrassment on the part of the healthy to the presence of the afflicted patient whose mark of disease is usually obvious: a sagging face, a dangling arm and tortured gait, and all too frequently a disability of speech that thwarts the last hope of useful communication. Such a soul is a pariah and is often condemned to live as such, shunned by all but those most devoted to him. The sufferer from other equally serious diseases is usually not the subject of this ostracism. This unfortunate folk prejudice lingers in varying degrees among otherwise sophisticated medical professionals at every level and adds another obstacle to the provision of adequate care to these stricken people.

The provision of health care to the stroke patient requires a surprisingly detailed fund of information. In addition to this need we should review the development of our attitudes and extent to which information that has been accumulated is utilized. It is very difficult to know how to progress in this field unless we understand how we arrived at our present status. As a neurologist I am very conscious of one perspective usually unappreciated even by fellow physicians. This is the remarkable advance in understanding of diseases of the brain which has occurred in the past few years.

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Dramatic and unexpected progress in science and technology has taken place during the last 50 years. Yet, for a surprisingly long period of time the clinical and basic aspects of brain disease seemed to progress at an unimpressive rate. Advances in biochemical techniques provided the means for understanding the basic mechanisms in many areas of clinical disease. Disorders of nutrition, liver function, endocrine glands, and blood-forming tissues, all yielded instance after instance of specific clinical cures or dramatically effective treatment. Utilizing chemical and test tube techniques, the immune process began to unfold and the major killer, pneumonia, yielded for the first time to treatment with immune horse serum. A major drug house spent $10,000,000 (1937 dollars!) for horse stables to supply the anticipated demand. The project floundered when the efficacy of sulfonamides was demonstrated one year later; the incredible era of antibiotic introduction of penicillin and the subsequent antibiotics should expect new, miraculous, and immediate cures for all diseases. I share that wish, but still need not apologize for the progress that is occurring at a healthy pace, though sometimes at an unspectacular rate.

In cerebrovascular disease we presently have the understanding and the tools to prevent the development of stroke in a number of individuals for whom such measures would not have been possible ten years ago. We now have the ability and advanced technological support to diagnose and treat a variety of disorders that produce stroke, but we have not yet devised effective ways to extend these benefits to the majority of patients subject to these ills. This prologue introduces a series of articles which document the facts available in the stroke area, list guidelines for stroke care and note the facilities necessary for effective delivery of service. There is urgent need for such a document. Unorganized and undisciplined expansion of medical facilities, a seemingly laudable goal, has resulted in excessive fragmentation and increased costs of medical care. This combination of events results in delivery of less than optimal care to a large number of stroke victims.

As late as the 1950s a routine decision made in the emergency room of a city hospital was whether or not a stroke patient could swallow adequately. If he could swallow, he was discharged with the statement that there was nothing that could be done for the stroke. If he could not swallow, a nasogastric tube was inserted and he was discharged with the same advice. Receiving physicians were disinterested in the stroke patient; his numbers were unending and he filled the intern's ward with patients in whom he had no diagnostic interest, for whom he did nothing (on the assumption that there was nothing to be done), and who prevented his admitting "really interesting cases." It is unfortunate that this attitude was shared by some neurologists as well, but we can be encouraged that such bias against cerebrovascular disease is diminishing.

It was not until the 1950s that the frequency of internal carotid artery disease in the neck as a cause of stroke began to be appreciated by clinicians. Many pathologists then, and even now, spend more words in the description of the prostate gland than of the cervical or the cranial vasculature. This priority of interest might excite a certain morbid humor were it not such a serious indictment of inappropriate interest on the part of some pathologists.

Until now I have spoken of stroke as though it is a single condition, possibly implying that it is to be recognized at a glance. In some instances this can be done. However, all clinicians have seen hemiplegia as the first sign in the vascular complications of tuberculous, fungal, and syphilitic meningitis. A casual diagnostic attitude in these diseases is intolerable.
There is an additional and long list of treatable, sometimes completely curable, diseases that may at times present as a possible stroke. No experienced neurologist can deny that he has misidentified one of the less usual causes of stroke, and "if gold rust, what should iron do?" Possibly more frequently the neurologically unsophisticated person will accept almost any neurologic symptom or syndrome as a stroke, especially if the entire side of the body is affected. The patient may indulge in self-diagnosis, as I am reminded by a recent hysteric who promptly developed a spurious paralysis of arm and leg to accompany her innocent Bell's palsy of the face. How often serious errors of diagnosis occur is information that is very hard to substantiate. I am convinced that since misdiagnosis occurs occasionally in the hands of skilled physicians, it probably is frequent in the everyday world. To be correct most of the time is no consolation to the patient dead as a result of an occasional error. Since there will not be an adequate supply of neurological experts in the foreseeable future, the educational upgrading of other members of the medical community in matters of neurological illness and stroke must be given high priority.

Education in neurological diseases, including stroke, has failed to provide the necessary background for the physician in his medical school and residency training. Attempts are under way to correct this deficit, but it would be a mistake to assume that present efforts will solve the problem quickly. Medical schools are shortening curricula and at the same time the internship year is being eliminated. These changes are occurring at a time when the body of medical information is doubling every few years. The pressure from the public to make these changes is great — the nation demands an increased supply of physicians without realizing the necessity of experience under skilled supervision in the training of an informed and responsible physician. Moreover, the present-day student apparently is unwilling to spend the long years in training that were acknowledged to be essential in prior years.

We have broad information about stroke — patterns, mechanisms, manifestations, diagnosis, therapy, and prevention. Experts in the field are constantly reviewing information, adding to our knowledge, and attempting to resolve differences of opinion. While recognizing these differences of opinion, none of us should forget that thousands of patients might benefit today from information lacking to them for want of application of principles that are not in serious contention. We also have a large number of medical practitioners who do not share the understanding of all the implications of this knowledge, or who will not act on what understanding they have.

This compendium of articles is one of many ways to attempt to shorten the time that is required for new knowledge to be applied to the present number of ill patients.

What is considered best today, however, may be contraindicated tomorrow, not necessarily because it is wrong, but because it will be superseded by a better method. The reverse, of course, may also be true. The arteriogram of 20 years ago was a procedure resulting in high morbidity and significant mortality. The carcinogenic properties of one of the commonly injected contrast agents were not recognized for many years. The technical capacity of the films to yield information was as primitive as the inexperience of the surgical or radiologic interpreter. With that state of the art, no rational expert would have advocated the use of arteriography with the freedom and frequency with which it is being utilized today. If 20 years ago a body of experts had assessed the role of arteriography in the diagnosis of stroke, it is fairly likely that a highly cautionary, possibly bluntly negative, report would have resulted. It is quite possible, though difficult to prove, that the present great practical value of this procedure would have been delayed for years. The real progress in improved arteriography was not made through its indiscriminate utilization by every journeyman practitioner, but through systematic study by a few thorough, painstaking, and thoughtful scientist-physicians. Perhaps this example will serve to remind us that the labors of many experts in diverse fields will produce modifications in the future. It is imperative that we expect and strive for change. What is the best practice today will not be so tomorrow and as the results from new and controversial ideas emerge we must insist that the reports be accurate and that application of the results be expedited.

The data reported in the ensuing articles have been compiled with painstaking effort and thoughtful care. The many experts who have contributed to this work are aware that their opinions and recommendations are subject to change. Many of them have expressed concern that these pages might be taken as "official rules" which would limit progress by discouraging the development of different ideas or approaches. This is not the intent of the Guidelines. Nonetheless, this material represents the best judgment of well-qualified individuals who have accepted their editorial responsibilities seriously. Put to use properly, the information in these articles should represent a significant advance in the delivery of health care to the person who needs it most — the stroke patient.
NOTE TO READER:
The Joint Committee for Stroke Facilities was created through a contract with Regional Medical Programs Service. The project upon which this publication is based was performed pursuant to Contract HSM-110-69-436 between the American Neurological Association and Health Services and Mental Health Administration (now designated as Health Resources Administration), Department of Health, Education and Welfare to help fulfill the requirements of Section 907 of Public Law 89-239, which established the Regional Medical Programs in 1965.

The Committee hopes to review and update its guidelines periodically, as new methods of diagnosis and treatment are developed. Comments, criticisms, and corrections are invited. They should be sent to:

General Chairman
Suite 1010, 1776 K Street, N.W.
Washington, D.C. 20006

The following subjects will appear in serial publications in STROKE, although not necessarily in the order listed:

- Epidemiology for Stroke Facilities Planning
- Clinical Prevention of Stroke
- Medical and Surgical Management of Stroke
- Strokes in Children
- Guidelines for the Nursing Care of Stroke Patients
- Stroke Rehabilitation
- The Laboratory Evaluation of Neurovascular Disease (Stroke)
- Special Procedures and Equipment in the Diagnosis and Management of Stroke
- Community Health Services for Stroke
- Training, Education, Manpower, and Research for Stroke Care
- Transient Focal Cerebral Ischemia: Epidemiological and Clinical Aspects

Cross-references will be indicated from time to time to material developed in other sections. Pages will be designated whenever possible, but the sequence of publications will not permit this in many instances. However, the Table of Contents included with each Section should aid in directing the reader to the appropriate pages.
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