PROGRESS IN ANESTHESIA IN THE WESTERN HEMISPHERE

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The development of a new speciality in the practice of medicine is profoundly influenced by, although not necessarily wholly dependent upon, discussions of problems of mutual concern and publication of the thoughts of individual specialists. The frequency and quality of meetings of interested individuals, therefore, together with journals in which their thoughts can be printed, constitute a means of measuring progress. The announcement of "Revista Argentina de Anestesia and Analgesia" in 1939 was received with pleasure in North America. A second journal, "Revista Brasileira de Anestesiologia" constitutes a new milestone indicative of the rapid progress of Latin American anesthesia during the past decade. A short review of activity along similar lines in North America may interest Latin American anesthetists at this time.

So far as I am aware the first attempt to hold a meeting of anesthetists on a national scale in the U. S. A. was in 1912. An effort to establish an anesthetic section of the American Medical Association failed at that time. In lieu there of an American Association of Anesthetists was formed and, in 1914 an official organ of publication was begun as "The Quarterly Supplement of Anesthesia and Analgesia" of the American Journal of Surgery. In the fall of the same year appeared the first edition of the book published by Gwathmey and Baskerville. This was the first comprehensive textbook on the subject produced in North America. One might assume therefore, that judged by the time of the first appearance of special publications on the subject, the specialty of anesthesia in North America can be considered to be a quarter of a

century older than in Latin America. Both were handicapped because initiation of our specialty was followed by a world war in each case. It is hoped that you in Latin America, who are younger by twenty-five years may profit by a discussion of possible errors of omission and commission which were made by your elder brothers to the North.

Pioneers in human endeavor tend to follow the pendulum of progress to extremes rather than to travel a middle course which common sense should dictate. The history of our specialy gives many illustrations of this fact. As time goes on the pioneer tends to become experienced, a mature anesthetic specialist in our case, with a more stable and rational approach to the problems involved. Although conditions differ in our two continents, a knowledge of mistakes made and of lessons learned during our thirty-five years as a specialty may to some extent be found valuable to you in your effort to establish a Specialty of Anesthesia which will promote safety for Brazilian patients and satisfaction for Brazilian surgeons.

1. Anesthesiology a Part of General Medicine — Administration of anesthetics in the U. S. A. until the end of the 19th century was largely entrusted to the temporarily idle medical student, intern, general practitioner, nurse or other individual who chanced to be available and not busy at the moment. It is probable that many of these persons developed considerable technical skill. Such employment, however, rarely commanded more than nominal recompense either in fees or other evidence of appreciation. This heedless attitude toward anesthesia had only one result to commend it; namely, medical students, interns and young doctors in general did acquire a limited amount of experience and familiarity with methods of administering anesthetic drugs. The results, however, were variable and unpredictable. Those who served as anesthetist more frequently were likely to acquire greater skill. Since a doctor received a very inadequate fee or none at all, he had only one incentive; namely, the opportunity it gave him "to watch the operation". As one noted surgeon of the 1890 expressed it "A nurse makes a better anesthetist than a physician because her attention is concentrated upon the anesthesia whereas a doctor is interested chiefly in watching the operation". Through the influence of this man and other prominent surgeons of that day, certain nurses in larger clinics in the mid-western United States came to be assigned to anes-

thesia as a major portion of their work. The habit spread. It was a short step from this practice to the "specialist" anesthetic nurse. This seemed a harmless plan at the time and the vogue persists even to the present in some hospitals in the U. S. A. Glaring faults of the system became evident later which were not appreciated at first. Only two need be mentioned here. The first was a tendency toward total lack of interest in, or knowledge of anesthesia by the medical profession itself. Realization of this defect was delayed because a lapse of many years intervened before those physicians whose early intimate personal experience with anesthesia were no longer in active practice. As a result, during a considerable period little instruction or experience in anesthesia was available to the medical student or young doctor. The second unfortunate effect of these early practices regarding anesthesia, which has been a handicap of far-reaching significance in delaying the establishment of anesthesia on a professional basis, was the custom of permitting the hospital to charge the public a fee for anesthesia — while using only a fraction of the amount so collected in rendering the service. Hospital management came to look upon anesthesia as a source of revenue.

Meanwhile, those two basic disciplines, physiology and pharmacology, had been making rapid strides in our knowledge of respiration and circulation and of the mechanism of drug action. Their application as the very foundations of anesthesia was neglected. Hence, those of us who constituted the nembership of early anesthetic societies in the U. S. A. were, with few exceptions, really technicians; serving, with our limited basic knowledge, merely to replace the specialist nurse, albeit in a glorified sort of way. I need not labor the point here that we are, in recent years, struggling with all our power to found our art of administering drugs upon a firm scientific foundation of fundamental knowledge; — to make of ourselves masters of a science as well as an art of relieving pain. In this struggle we are finding, as I shall emphasize later, the necessity of thorough instruction by way of reinterpretation and application for the undergraduate medical student, of the physiological and pharmacological principles which must protect patients from the dangers of depression.

In short, overy specialist in Anesthesia ought to be a competent physician. Conversely, every physician, whatever his specialty, ought to possess knowledge and skill enough to administer an anes-

thetic when he must, to recognize competence in an anesthetist and to care for a depressed patient intelligently, regardless of the cause of the depression.

2. We Ought Not Depend for Our Prestige upon the New, the Glamorous and the Spectacular. — We are sometimes tempted to court popularity in strange ways. During my own very early experience in anesthesia when I first came to realize the advantages of nitrous oxide I made a distinction as to the agent used in collecting fees for my services. One day the cashier of the local illuminating-gas company called my office to say that one of our patients was in his office prepared to pay our bill ! It had been rendered as a charge for "gas anesthesia". Thereafter, our charges were made for "professional services" regardless of the agents or technics employed. Perhaps the glamorous and spectacular in drugs and technics did tend to impress surgeons and patients with the fact that a specialist in anesthesia was different. Perhaps demand for our services was thus promoted. I have even heard teachers state that the new, glamorous and spectacular were necessary to attract the interest and enthusiasm of students. Such superficial and showy approaches, however, form a precarious foundation upon which to build a sound specialty. Real and permanent success will more likely be based upon fundamental knowledge of the principles of respiration and circulation, technical skill in administering tried and proven agents and sympathetic personal relations with both patients and surgeons. The programs of our meetings and our publications directly following their initiation thirty-five years ago furnish ample evidence that neophilism was rife among us. We grasped each new drug possessing possible anesthetic qualities as a substitute for all the older agents. We tried intensively to make each new technic replace older customs. Enthusiasm for the new is, of course, desirable because it is the pathway of progress. Modern medicine has, to a certain extent, reacher its present high state of perfection along that path. Nevertheless, discretion ought to be mixed with the valor of enthusiasm for the new. To be sure once a new drug or technic has been thoroughly evaluated in fair comparison with the old — and proven better — it ought to be included in our armamentarium. But to be "proven better" a great deal of work and time must be directed to observing disadvantages as well as advantages of unfamiliar practices. "Thorough evaluation" and "fair comparison"

demand study not only of the new factor in the comparison but of the old as well. Present day methods of investigation are more refined and reliable than formerly. It is not surprising therefore, that results of restudy of older practices in these comparisons may vary from the conclusions arrived at and placed in the literature at a much earlier date.

Even when we have finally accepted a method, new or old, I would commend to you the following quotation from Gunnar Thorsen which appears in his recent thorough analysis of the spinal anesthetics which have been administered in his institution.

"When a medical method, whether diagnostic or therapeutic, has been generally recognized it easily becomes a matter of routine, being deprived of unceasing critical observation. Indications and contraindications become blurred. Results are misjudged. Limitations and risks are forgotten. It therefore becomes imperative to analyze now and again the results arrived at, as well as, the risks and indications of the methods employed." (Acta Chirurgica Scandinavica, Vol. XCV, Suppl. 121.)

3. Our Obligations — What are the obligations of our specialty and to whom do we owe them ? Of the many I shall refer to only four; allegiance, service, teaching and research.

Allegiance. It is important to remember that our allegiance is tripartite in nature; our first allegiance is to the medical profession of which we are a part; secondly to the public and lastly to our specialty. The latter, that is the welfare of our selves and our specialty, is apt to appeal to us as all-important; and yet our own selfish interest is promoted in the long run by recognition of our obligation as citizens of our community and as members of the medical profession. We are apt to learn this fact too late. Many concessions that are for the good of ourselves and our specialty are secured through the aid and cooperation of lay boards of directors of hospitals, of public officials who direct hospital activities and of other medical specialists. Specialization in the practice of medicine is obviously necessary in this modern world. The field is too broad for each of us to comprehend every phase in all its details. The advantage of specialization is the opportunity it affords us to perfect ourselves more completely in a restricted field. The disadvantage of specialization lies in isolation, and in the temptation to lose

interest in medicine as a whole. General medical meetings and those of the various surgical specialties deserve the attention of the anesthetic specialist. Journals other than anesthetic must be furnished with a reasonable number of papers by anesthetists. Such papers, however, need to be of a different character than those written for the special attention of anesthetists. Joint discussions of mutual problems with the rest of the profession are beneficial to all who are influencial in the medical staff of hospitals. The old addage "you scratch my back and I'll scratch yours" has a great deal of truth in it. The opinions of the anesthetist who works hard for community betterment, who serves faithfully and well in his local, county and state medical organization will be taken seriously when new hospitals are being built, when attitudes toward our specialty are being formulated or when laws governing the practice of anesthesia are being promulgated.

In spite of a contrary opinion of the uninitiated, no medical specialty has such intimate or so many interlocking relationships with other specialties and with medicine in its broadest sense as does anesthesiology. My own personal opinion is that we need, as I believe all specialists need, an initial orientation period of not less than three years after graduation before we choose our specialty. In the U. S. A. these three years can best be spent in what we call general practice. Time thus spent permits us to observe the various specialties and their interrelations and determine which specialty appeals to us most. It also makes for maturity and self-reliance in the period of special training. The three years will be compensated for in more rapid progress as a graduate student and thorough familiarity with the "business" of becoming a useful citizen and of conducting ones's practice once he finishes training. A knowledge thus gained, of the viewpoint of others, of their problems; and sympathy for their difficulties is most useful. A feeling of certainty that he has chosen the right specialty, of confidence in his work and of assurance that he can succeed, are the results of this deliberate adoption of anesthesia as a life work.

Service. As specialists it is scarcely necessary to state that the foundation of our usefulness must be the best service of which we are capable, rendered both to patients and surgeons. I only mention it here for two reasons. One, because I myself have been guilty of sacrificing the one for the other on occasion. The other because

there are in our country anesthetic departments where research or teaching or both are looked upon as more vitally important than service. Skill at the operating table together with knowledge of all the ramifications which are now called anesthesiology are the "sine qua non" of the specialist. Without them neither teaching nor research can be conducted safely or effectively. When the service we render is less than the best our specialty fails to justify its existence.

Teaching. Once we have become a competent anesthetist we should consider it a privilege as well as a duty to teach other doctors whenever possible what we have been permitted to learn. Methods of teaching are as varied as the individuals who teach. Formal curricula and descriptions of methods used in certain institutions have been published. A method which is suited to one set of circumstances may be inadequate or impractical in another. This is not the place to consider details of that sort. I do wish to emphasize, however, our duty to contribute all we can to the knowledge of the fundamentals of anesthesiology to every medical student and every young doctor. There are two reasons for this: first, it is our duty to see that every licensed physician is capable of administering an anesthetic safely when he is confronted with the necessity of doing so. This, I believe, just as I believe that every anesthetist is a physician who must be capable of making a diagnosis and treating a patient surgically or medically when a more competent practitioner is not available. In smaller communities many doctors devote a part of their time to administering the occasional anesthetic (in the British Empire they are called "General Practitioner Anaesthetists"). They can do so with safety to patients and satisfaction to themselves. They deserve all the help and encouragement possible from the specialist. A second reason for instruction of other physicians by the anesthetist is that anesthesiology is founded upon a rational concept of the functions of respiration and circulation. Acute disturbances of these functions are the daily concern of the anesthetist. Who better than he, therefore, can impart to others the fundamental understanding and the technical "tricks" which are frequently life-saving measures if applied at once when no anesthetist is near. When respiration is obstructed, extremely depressed or arrested from whatever cause the nearest doctor should be able to come to the rescue. To our disgrace in the U. S. A., and because of the neglect of anesthetic teaching, firemen, policemen and other

lay rescue squads sometimes are asked to assume authoritative supervision of accidents even in the presence of physicians. Such conditions are a disgrace to us.

We in the U. S. A. felt that our early efforts to teach both the undergraduate medical student and the graduate preparing to specialize in anesthesia were handicapped by a lack of appreciation of the need on the part of those who directed medical schools and hospitals. In recent years, however, our embarrasment is of quite a different sort. The demand for competent teachers far exceeds the supply. Teaching is a specialty in itself, demanding long training and experience. Many of our medical schools are forced to appoint to advanced rank in their faculties, persons who, although capable as clinical anesthetists are far from maturity and full capacity as teachers. It appears that only time can remedy this unfortunate situation.

Research. I have already said that the safety and the effectiveness of both teaching and research are dependent upon clinical mastery. I shall add only a word of caution. Investigation, and publication of the results, involves serious responsibility. Basic knowledge, mature judgment and controls are among the essential requirements. Most of us will do better to direct our energy along other lines until the time arrives when we have no doubt that we ought to become investigators. Early efforts in research can usually be directed more fruitfully at the improvement of accepted practices rather than toward excursions into untried pathways. Consultation with our confreres in the basic sciences and cooperative efforts with them in research tend to keep us within the bounds of legitimate endeavors which give some promise of fruitful results. Too many of the current publications dealing with anesthetic problems exhibit evidence of a narrow viewpoint. On the one hand, reports of laboratory experiments often show lack of the guiding and checking hand of the master clinical anesthetist; while on the other hand papers from the clinical side, still more frequently, give evidence of the author's lack of knowledge of well known facts in physics, physiology, pharmacology or other fundamental science. Consultation and cooperation can contribute much in research. Unjustified inferences or conclusions, once published, cannot be recalled; and yet they can mislead a great many readers.

4. Qualities of the Good Anesthesiologist.

Physical. In choosing anesthesia as a specialty the young physician must not be deceived by the popular misconception that the anesthetist leads an easy life. Too many persons have entered the practice of anesthesia because they were told that handicaps such as tuberculosis, arthritis, cardiac lesions and other disabilities necessitating restricted activity, would interfere less with their success than in other specialties. This is definitely not true. Long hours, night work, tiresome positions for long periods and plain hard work in general are the lot of every anesthetist who faithfully fulfills his obligations. There are many other specialties in which the occasional day or hour of rest will interfere less with rendering satisfactory service to patients and to the rest of the profession. The temptation to overtax one's strength and endurance is nowhere greater.

Moral. Patients who are under the influence of depressant and anesthetic drugs often experience modifications of their normal mental qualities. Inhibitions may be released and actions which normally would be rejected as incompatible with the patient's moral code, may appear to them temporarily as desirable conduct. The mentally unstable anesthetist without a strict moral code of his own may, as a result, be subjected to temptations less frequently encountered in other specialties.

When the anesthetist assumes "power of attorney" for his patient as he becomes unconscious, he becomes burdened with the obligation of seeing to it that others, orderlies, nurses and even surgeons on occasion or members of the patient's family do not take advantage of the patient during periods of unconsciousness or mental depression.

Drugs which produce pleasant mental changes, relief of pain and sleep are constantly and easily available to the anesthetist. Worry, overwork, sleeplesness and misery of many sorts create the temptation to seek relief by the use of the drugs, the administration of which constitutes our hourly employment. The abuse of alcohol, the parent substance of most of our anesthetic drugs, is likewise an ever present temptation to us.

Suicide, drug addiction and unreliable professional conduct resulting in malpractice and breaches of the code of conduct have all occurred in the lives of anesthetists. Forewarned is, to an extent

forearmed. It seems to me that a stable moral character is an especially essential quality of those who enter our specialty. Anesthesia does not constitute a "way out" for either the physical or the moral weakling who has unfortunately gained entrance to the medical profession.

Mental. A spirit of friendly cooperation is essential to the anesthetist's success. In the development of our specialty in the U. S. A., too many of us have embarrassed our efforts by failing to see and occupy our specific place in the surgical team. A modern surgical procedure is a joint effort of several persons. The position of the anesthetist in that joint effort is critical. If he will approach his duties in a diplomatic manner, if he will contribute his science and skill in the spirit of the "golden rule" he may serve as the balance -wheel which governs the smooth running of the machine of which he is a part. The anesthetist who fails to cooperate diplomatically misses the opportunity to contribute toward the best accomplishment of internist, surgeons and hospital management. In short, he can make or break the success of the surgical team.

Summary

In congratulating the Brazilian medical profession on the inauguration of the first Journal of Anesthesiology published in a Portuguese-speaking country, and the second in Latin America, an attempt has been made to discuss experiences of anesthetists in the U. S. A. which may prove useful in the development of the Specialty of Anesthesia in Brazil.

The intimate relationship of anesthesia to medical practice in general has been stressed. Fundamental knowledge of basic principles rather than the new, glamorous and spectacular has been recommended as a foundation of our specialty. Certain of our outstanding obligations, to ourselves and to others, have been outlined. And lastly have been discussed some physical, moral and mental qualities which seem to the author necessary to the success of the specialist in Anesthesia.

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