

Special Session: Prognosis

Summary and Remarks

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Probably the most vital and at the same time the most difficult task we face as aphasiologists is the one of predicting which of our patients will or will not recover language functions and to what degree that recovery process might extend. As both a summary of what has been so well-presented and as a stimulus for our ensuing discussion on prognosis, let me briefly substantiate why I believe the task of making prognoses to be a most vital professional obligation and why I am proposing that, given the current state of the art, it is our "Mission Impossible."

Determining a prognosis is vital because of:

The Patient. He/she should and must be informed of the results of our tests and observations. The patient has been probed, poked, and prodded by the medical staff before ever reaching us. The patient then arrives at our threshold and, perhaps unknowingly, submits to a battery of tests and procedures. Customarily, the patient shows great patience and blind faith that this person who purports to "want to help" has a reason for engaging in behaviors that may border on the strange if not downright rude, such as pointing to a toothbrush and asking, "Have you ever used one of these?" Undaunted, however, we press ahead because as Schuell et al. (1964, p.176) said so well, "Time required for comprehensive testing is justified by time saved in treatment."

After the devastation of what has happened to his brain and body, followed by the above necessary procedures, it seems to me that we have no choice but to attempt an answer to the patient's stated or implied question, "Will I get better?" I think the issue we are addressing today is vital.

The Family. It has often been said that stroke strikes a family, not just a person. For those family members seeking answers to questions such as "Will he always be like this?" or "How soon will he be able to talk?", we represent the major source of information, and, to the extent that information is better than ignorance, we represent comfort.

The Employer. For many and obvious reasons the employer needs to begin planning based upon predictions of the patient's potential for future work.

The Physician. We who are not physicians do not attempt to take out an appendix. Such an action would be both illegal and irresponsible. The boundaries and scope of medical counseling are indeed broad, as they must be, because the physician is responsible for the patient's care. I find more and more physicians with whom we have contact do seek to restrict their boundaries in deference to information we are expected to supply regarding language recovery. If they have expected little from us, it could be because so far we have been unable to provide much in the way of veridical, data-based information on recovery.

The Fiscally Responsible Other. Personally, I partially hide behind the umbrella of socialized treatment. I want at least to try treatment with nearly every patient and would feel guilty charging for something that doesn't seem to be efficacious based on contrasting original language baserates with serial test data on a given patient. My analyst also tells me that I have a great deal of difficulty in the area of separation anxiety, better termed by others "discharge planning." Many aphasiologists work in settings that require daily accountability and justification for each minute of treatment extended. We run the risk of not being able to offer therapy to many aphasic patients if we do not provide more viable information on the process of recovery.

Now, I should like to address the "Mission Impossible" nature of prognosis by citing some factors which make prognostication difficult at this stage of our awareness and development. I started to list for you all the variables from the literature and from clinical experience that have been cited as potential influences on recovery, but time did not permit. Most of you know them by heart anyway. I chose instead to discuss four major categories which contain many separate but related and interrelated variables for consideration. The categorization may add some structure in conceptualizing directions that we need to take before we will feel comfortable in deciding the probability of, or the extent of, recovery.

Neurophysiological Variables. The structural and physiological systems that subserve language almost defy understanding. More information has come to the surface concerning normal language functions based on studies of pathological brain tissue than has been learned from studies of normal brain functioning. Information based on pathological studies with subsequent inferences to normals lack precision and may be misleading. The latter statement would include split-brain studies referred to today by Ludlow and Kertesz, previously by Ojemann (1975), Goodglass and Kaplan (1972), and recently Porch (1978). These studies are attempts to predict language function and change over time relative to lesion site and size. It may be that CAT scans, by providing three-dimensional views of infarcted tissue, may provide the data that have been lacking to predict physiological potential for recovery, particularly when scan information is combined with cortically-evoked-response data. Nevertheless, a single CAT scan may not control for the degree of established collateral circulation, so flow studies may also be needed. It may be that positron emission tomography scans may be even more elucidating, as Ludlow has commented. Our progress in matching lesion site to behavioral deficit a la Fritsch and Hitzig (1870), Broca, Wernicke, and Nielsen (1947) is still limited, and will continue to be, if other variables are not brought to the fore and inter-related. Schuell (1964) believed strongly that perceptual, sensorimotor, and dysarthric components significantly influenced recovery of patients to the extent that she made her group recovery predictions based on physiological findings. In so doing she tried to test performance thoroughly and relate this information to treatment. Such an undertaking is overwhelming, but do we have any other choice?

Neuropsychological Variables. Do we really believe that pre-morbid psychological characteristics and response tendencies influence post-morbid language recovery? If the answer is "yes," then we must conclude that the amount of research devoted to this source of variance has not substantiated

our belief in the importance of these factors. Eisenson (1973, p.225), in discussing what he believes to be the essence of aphasia, stated that,

"The disparity between the inner formulations and the nonverbal behavior and the expected conventional linguistic formulations and expressions is much greater for the aphasic than it is for the rest of us...The aphasics who improve spontaneously and quickly are those who are able to make the transitions and the translations...readjust to the verbal habits of the culture... The aphasics who recover more slowly in the absence of ongoing cerebral pathology are for some reason or reasons unable to accept cultural impositions. My belief is that these patients always had such difficulty, but met the demands, however, begrudgingly, in a fashion that permitted them to get along."

One such patient of ours said, "I didn't talk much before my stroke." This is cited because it suggests to me that we must differentiate between patients incapable of reorganizing, in contrast to those whose backgrounds predispose them not to talk, even though they may be capable of learning new strategies for communication. We recently found that only about 75% of Broca's patients in group treatment could learn the simple strategy of asking for questions to be repeated. An additional clinical finding is that patients who cannot process two bits of information beyond a 40-50% correct criterion remain functionally impaired in auditory comprehension. This may be what the Token Test measures. In these examples, we see neurophysiological limitations of varying degrees interacting with response tendencies (pre- and post-morbid) of various types, either of which may interact positively or negatively with our approaches to treatment. Does our treatment plan consider the need to reorganize, or have we ignored premorbid patterns and stressed singular themes which are directed at reception and retrieval of the normal cultural linguistic code, as if all patients were premorbidly homogeneous?

Goldstein in 1942 commented,

"The attempt of the organism to find a new adjustment gives rise to two kinds of symptoms: the first kind reveals the struggle; the second reflects the tendency to build up substitute performances which allow it to escape this struggle and to come to terms with the demands of the outer world in the best possible way." (p.69).

Following Tikofski's (1971) work, have we researched adequately post-CVA learning abilities or memory ability, as Haaland suggested yesterday? Other psychological variables influencing recovery are motivation and dependency. They interrelate with extent of physical incapacity, as well as premorbid roles and interactions with family before and after insult. Additionally, the personality of the clinician becomes another important factor in determining whether a patient will or will not respond to a given therapeutic approach. Recovery may vary accordingly.

Test Variables. It is my opinion that current tests of aphasia are inadequate for deriving cross-sectional profiles to determine significant language changes over time. Multidimensional scoring has the potential for

measuring small but significant changes in language performance. Our most objective test, the PICA (Porch, 1967), which uses multidimensional scoring effectively, has certain shortcomings described by Martin (1977). The Boston Diagnostic Test of Aphasia (Goodglass and Kaplan, 1972) is relatively complete and extensive, with the aim of relating language deficits to neurophysiological site of lesion and type of aphasia. However, it lacks functional measures of performance. The C.A.D.L. Test (Holland, 1979) does have promise in measuring functionality, but no single test can promise to assess language performance along its many dimensions. We must avoid letting terms such as "global" do our predicting for us.

Treatment Variables. In 1972, Darley, who seems prone to ask questions, presented the following: 1. "Does therapy have a decisive influence on ultimate recovery?" From a thorough review of research, he answered the question with a "yes" and has since been supported by Basso et al. (1979) and has found an advocate in Benson (1979). For questions 2. "Are the language gains attributable to therapy worth the investment of time, effort, and money?" An answer is more difficult, partly because we do treat some patients whose recovery we cannot predict. Eisenson (1973, p.127) suggests that we ask, "When does the patient no longer need my services to continue his recovery?" Perhaps this represents what we should attempt to predict in lieu of, or in addition to, functional language recovery. Question 3 was asked by Darley, "What are the relative degrees of effectiveness of various modes of treatment...?" It would seem prediction of which patients will benefit from which types of therapy requires: (a) Better specification of therapy approaches. (b) Collation of both physiological and psychological variables. (c) Correlations of types of aphasia with test profiles of linguistic and nonverbal variables, as Kertesz has reported with the Ravens (RCPM). Then perhaps some valid prognostications can be formulated for testing.

The task, as outlined, is an onerous one, considering the number of different therapy approaches that are possible. Additionally, if we consider the potential approaches to therapy suggested by Ludlow today, we certainly have reason to choose a complex multifactorial design or discriminative function analysis to even begin to ferret out the relationships that could result. At least Brookshire et al. (1977) provide a beginning, by offering a method of describing, with some degree of objectivity, what happens in each patient-clinician interaction.

I should like to close these remarks, but the topic merits openness and intensive, eclectic efforts by interdisciplinary teams. We cannot afford to diminish our data base and proceed with views that reflect a "narrowing or hardening of the categories."

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