Aphasia and the Expert Medical Witness

RICHARD T. RADA, M.D., BRUCE E. PORCH, PH.D., AND ROBERT KELLNER, M.D., PH.D.*

Introduction

The incidence of cerebral vascular accident in the U.S. is 200 per 100,000 population of all ages,[1] or approximately 400,000 new strokes per year. Many of these patients develop acute or chronic aphasia. When the mental capacity or legal competence of the aphasic patient is questioned, it is frequently the psychiatrist whose expert testimony is requested. In 1900, Dr. Charles Mills, writing in the textbook entitled *A System of Legal Medicine*,[2] noted that the medical-legal aspects of aphasia had received little attention by comparison with the immense literature on the general topic. A review of the recent medical and legal literature indicates that the situation remains unchanged today. The purpose of this paper is to present a brief review of the historical development of aphasia, of aphasia as a legal matter, and of new developments in the field of aphasiology, and a case illustration of combined expert testimony between a speech pathologist and a psychiatrist in a case involving child custody.

Definition of Aphasia

Dorland's medical dictionary defines aphasia as "a defect or loss of power of expression by speech, writing, or signs, or of comprehending spoken or written language, due to injury or disease of the brain centers."[3] Injuries to the brain frequently produce deficits which in some way affect the mental capabilities of the patient. Damage to the left hemisphere is frequently associated with the reduction or loss of communicative ability, and the patient is described as having aphasia. His reduced capacity for carrying out all encoding and decoding processes can be documented and various degrees of deficit can be demonstrated in the broad areas of reading, writing, speaking and understanding. Operationally, the brain loses some of its ability to receive and send information, although its other processes may remain intact. Depending upon the extent of breakdown in communication, the patient's capacity to handle personal and social interaction may be questioned.

The Historical Development of Aphasiology

The modern history of aphasia begins in the early nineteenth century with Franz Joseph Gall, better known for his theories of phrenology.[4] Gall was the first to suggest that linguistic capacities are functions of circumscribed brain areas. In 1861, Broca[5] described patients who lost speech following damage to the third frontal convolution. He presumed this area to be a "center" for the motor images of speech. Shortly thereafter, Wernicke[6] presented his first paper on aphasia associated with lesions of the left temporal lobe and suggested that in addition to the motor aphasia noted by Broca there

* The authors are all associated with the University of New Mexico School of Medicine. Dr. Rada is Associate Professor of Psychiatry; Dr. Porch is Associate Professor, Department of Communicative Disorders; Dr. Kellner is Professor of Psychiatry.

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were also a sensory aphasia and a conduction aphasia. Since the middle of the nineteenth century, most investigators in aphasiology have focused on the basic question of the direct relationship between language and the brain and have attempted to discover direct "centers" where language capacities could be localized. John Hughlings Jackson[7,8] was one of the first to seriously question the theory of localization. Then, in 1891, Freud[9] wrote a monograph entitled "On Aphasia." Acknowledging his indebtedness to Hughlings Jackson, Freud attacked the classical localization theory and the idea of speech as a cerebral reflex. Marks[10] has recently presented an excellent historical analysis of the significance of Freud's work on aphasia. Although the significance of Freud's monograph on aphasia is recognized by aphasiologists, it is an interesting fact that it was not included in his collected works.

During the first part of the twentieth century, the development of the study of aphasia was profoundly influenced by both the first and second World Wars, which produced many instances of head trauma and subsequent aphasia. Sir Henry Head[11] developed the first comprehensive body of tests for aphasic behavior following World War I. Kurt Goldstein[12,13] organized a hospital for treatment of brain-injured soldiers in Frankfurt during the first World War and was one of the first to indicate that alterations in performance with brain damage could be understood only in relation to the total organism. He emphasized that a patient's personality as a whole undergoes changes as a result of disease and that it was simplistic to look at the manifestations of change only in terms of different discrete functions or structures.

The broad classification of types of aphasia includes total or global aphasia, which is loss of all or nearly all speech function; expressive (motor, Broca's) aphasia, which involves deficiency in motor speech production; and receptive (sensory, Wernicke's) aphasia, which involves deficiency in understanding spoken speech. It has become common clinical practice to dichotomize aphasia into receptive and expressive aphasia. This simple dichotomy has recently been criticized,[14] and some investigators believe that the nature and classification of aphasia are more complex. For a more complete classification of the various types of aphasia, the reader is referred to *Brain's Disease of the Nervous System*[15] and *Harrison's Textbook of Internal Medicine*.[16]

Aphasia as a Legal Matter and the Role of the Psychiatrist

In 1810, Benjamin Rush presented a lecture "On the Study of Medical Jurisprudence."[17] In that lecture he stated:

> It is possible a man may forget the names, and number, and even the faces of his children, and yet not forget that they are the lawful heirs of his property. It is possible that he may forget to call his different coins by their appropriate names, and yet retain a perfect knowledge of their number, denominations and uses. . . . Such persons should be considered as intitled [*sic*] to all the benefits, and subject to all the penalties of civil and criminal laws of our country.

Despite the early recognition of the importance of aphasia and its relationship to mental competency in various legal matters, the medical-legal literature on aphasia and the majority of court cases are primarily concerned with liability,[18,19] compensation,[20] recovery of damage,[21,22] and testamentary capacity.[23-26] In addition, the legal competence of aphasic subjects has been raised in a few cases involving criminal responsibility[27,28] and those involving the ability of the aphasic to testify as a witness.[29-32] No cases in the literature could be found related to aphasia and legal competency in such areas as marriage, divorce, custody of children, or voting.

The test of competency is based on the particular legal question at issue. Therefore, the requirements for testamentary capacity are different from those for competency to stand trial, etc. The effect of aphasia on the client's competency must take into account the task which is germane to the specific legal issue. The legal question is not the mere

presence or absence of aphasia but the extent to which the aphasia interferes with the client's competency. Several case examples follow.

Lewin v. Lewin[33] is a case which considered the effects of aphasia on testamentary capacity (the capacity to make a valid will). The decedent had suffered a stroke which resulted in paralysis of the body and aphasia. It was contended that the aphasic condition had deprived the subject of testamentary capacity. In this case the issue revolved not simply around the question of whether the aphasia had affected the subject's ability to make a will but whether the aphasic symptoms had influenced his judgment and affections in such a way that the decedent made a different will than he might have before the brain lesion. Medically the debate was whether the decedent's aphasia was purely motor or whether it was a combined motor and sensory aphasia affecting not only his speech but his powers of comprehension. The court, on the basis of expert medical testimony, concluded that there was a failure of comprehension and an inability of the decedent to exercise normal judgment or discretion in relation to his affairs. Critchley[34] has recently discussed testamentary capacity in aphasia. He points out that lawyers tend to think in terms of full competency vs. total incapacity, whereas a neurologist tends to view the spectrum of intellectual accomplishment of the aphasic patient. He argues that aphasics do not necessarily suffer disorder of internal process of thinking as related to judgment, recollection, insight and abstract thought. Critchley's point is well taken and emphasizes the fact that the competency of the testator is frequently a legal issue after he is deceased. In those instances in which adequate evaluation of the testator's aphasic condition is lacking, the court must rely on the medical experts and on lay opinion which in many instances is based on retrospective appraisal. Such legal controversies might be prevented by a proper assessment of the aphasic patient's abilities prior to his executing an official will.

The case of *Commonwealth v. Morrison*[35] involves aphasia as a defense against criminal responsibility. Morrison, while in flight from a jewelry store robbery, killed a man who tried to stop him. He was subsequently charged with first degree murder. He pled that he was a drug user and as a result of the drugs was aphasic and therefore not responsible for his acts. The court ruled "the general presumption is that every man is normal and is possessed of ordinary facilities; such defenses as intoxication, insanity and aphasia . . . are affirmative defenses and the burden of proof is on the defendant to establish them."

In a case in 1902 of a woman who suffered from a right hemiplegia and aphasia, the court ruled that aphasia alone did not necessarily indicate an unsound mind.[36] Nevertheless, until relatively recently, aphasia was classified by the court as a dementia and as such fell under the domain of the psychiatrist as well as the neurologist and neurosurgeon. Few psychiatrists, including forensic psychiatrists, have been trained to evaluate adequately the competency of the aphasic patient. Usdin[37] has recently pointed out that dealing with aphasic patients requires initiative on the part of medical experts, and he cautions that doctors having no intimate knowledge of aphasia can too quickly come to the conclusion that the patient is incompetent. It is important, therefore, that the forensic psychiatrist be aware of recent developments in the field of aphasiology.

Recent Developments in Aphasiology

Although the relatively new field of speech pathology turned its attention to the treatment of aphasia following the second World War, the neurologic bedside examination remained a standard procedure for assessing the type and the amount of aphasia. It was not until recently that a concentrated study of aphasia began and attention was turned to the development of more precise and more objective psychometric techniques for testing the capacity of the damaged brain. A number of tests which are primarily used for classification and localization of the type of aphasia are the Minnesota Test for

Differential Diagnosis of Aphasia, the Functional Communication Profile, Examining for Aphasia, Boston Diagnostic Aphasia Examination, and the Porch Index of Communicative Ability. Brookshire[38] provides a description and discussion of each of these tests.

The Porch Index of Communicative Ability[39] is one recently developed method for assessing the aphasic patient which also attempts to quantify the extent and severity of the aphasia. In this test the patient is presented with 10 common objects (e. g., toothbrush, comb, fork, cigaret) and is asked to do a variety of common communicative tasks, e. g., show (gestural), say (verbal) or write on paper (graphic) what one does with these items. The three modalities (gestural, verbal, and graphic) are then tested in increasingly more complicated tasks to observe the point at which a deficit of communicative functioning occurs. There are 18 modality subtests (8 gestural, 4 verbal and 6 graphic) and 10 objects for each subtest which means a total of 180 separate communicative tasks are graded. The responses of the subjects are graded on a scale from 1—no response—to 16—a complete and complex response (Table I). The grading of the response is based on a multidimensional scoring system[40] which consists of the scoring of not only the accuracy but also the responsiveness, the completeness, the promptness and the efficiency of the response (Fig. 1). The mean score for each modality subtest is computed and the total of all subtests means is divided by 18 to yield an overall response

TABLE I

Multidimensional Scoring Categories of the Porch Index of Communicative Ability

Score	Level	
16	Complex	Accurate, responsive, complex, immediate, elaborative response to test item.
15	Complete	Accurate, responsive, complete, immediate response to test item.
14	Distorted	Accurate, responsive, complete response to test item but with reduced facility of production.
13	Complete-Delayed	Accurate, responsive, complete response to test item which is significantly slow or delayed.
12	Incomplete	Accurate, responsive response to test item which is lacking in completeness.
11	Incomplete-Delayed	Accurate, responsive, incomplete response to test item which is significantly slowed or delayed.
10	Corrected	Accurate response to test item self-correcting a previous error without request or after a prolonged delay.
9	Repetition	Accurate response to test item after a repetition of the instructions by request or after a prolonged delay.
8	Cued	Accurate response to test item stimulated by a cue, additional information, or another test item.
7	Related	Inaccurate response to test item which is clearly related to or suggestive of an accurate response.
6	Error	Inaccurate response to the test item.
5	Intelligible	Intelligible response which is not associated with the test item, for example, perseverative or automatic responses or an expressed indication of inability to respond.
4	Unintelligible	Unintelligible or incomprehensible response which can be differentiated from other responses.
3	Minimal	Unintelligible response which cannot be differentiated from other responses.
2	Attention	Patient attends to test item but gives no responses.
1	No Response	Patient exhibits no awareness of test item.

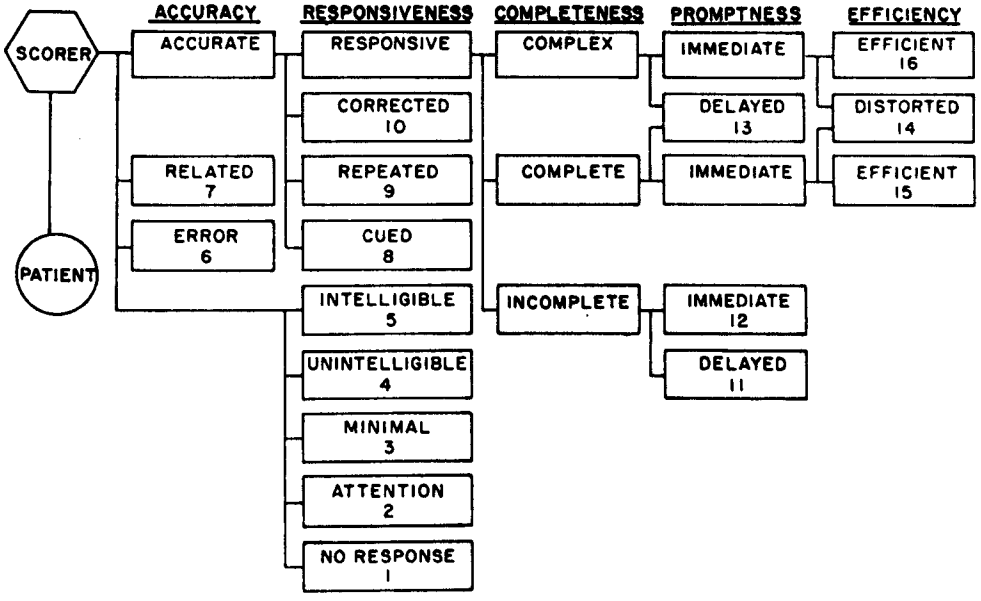

FIGURE 1. The multidimensional binary-choice scoring system schematizing the flow of scorer decisions in deriving a response score of the Porch Index of Communicative Ability.

score. Thus, proper administration of this test allows for a thorough appraisal of the communicative skills of the subject in three modalities, and small changes in communicative functioning can be accurately documented. Forty hours are required to become proficient in administering the Porch Index of Communicative Ability, and in the hands of the experienced examiner the test has a high level of interscorer reliability, test-retest stability and internal consistency when administered to aphasic patients. The test generally takes one hour to administer, although it can take longer for severely aphasic patients. Norms have been established for aphasic patients, and it is possible to predict a course of recovery of language deficit in the typical aphasic patient by establishing the degree of deficit on initial testing. Since aphasia is not static in the acute phase, the possibility of prediction of future recovery can have important legal implications, as is demonstrated by the following case.

Case Illustration

The case involved a woman who was aphasic following a stroke two years previously. The woman was the mother of a 5-year-old and a 3-year-old child, both of whom were currently in her custody. The husband was suing for custody of the children on the grounds that the woman could not adequately care for them. The subject had been seen over a two-year period and tested with the Porch Index of Communicative Ability. At the time of her first examination, she was found to be at the 35th percentile of aphasic patients. The 50th percentile has been found to divide dependent communication from independent communication; in other words, patients below the 50th percentile must rely on others to carry the responsibility for communication. One year following her initial examination, the subject was found to have recovered to the 60th percentile and at the time of trial, was expected to recover to the 70th percentile by the use of concerted speech therapy for a three-month period. At the trial a psychiatrist testified to the woman's mental health, her concern for her children, and the emotional impact

of her communicative disorder. He did, however, diagnose the aphasic disorder and deferred to the speech pathologist regarding the extent of the aphasia. The speech pathologist (Bruce Porch) was able to demonstrate quantitatively that the mother was not only capable of caring for herself, but was able to understand her children, even if the richness of her communication remained impaired. The case highlighted the combined testimony to the actual speech ability of the patient, given by the speech pathologist, and to the emotional impact of her disability on the children, given by the psychiatrist. In this case, the court ruled that the aphasic subject was competent to have custody of the children. It was likely that without the combined testimony of the expert witnesses, the court (especially on the basis of lay testimony) might have made a different decision.

Summary

Psychiatrists have recently been criticized from within and outside the profession for rendering professional opinion in instances where their qualifications are inadequate. In forensic psychiatry, the problem of predicting dangerousness is a notable example. The forensic psychiatrist may also be called to testify as to the present or future competency of the aphasic patient. It therefore behooves the medical expert to be fully aware of the new developments within the field of aphasiology so that in cases involving aphasia the best combined expert testimony can be rendered the court.

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