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Mental Retardation, Organic Brain Dysfunction, and the Forensic Clinician: Some Practical Considerations

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ABSTRACT: Mental retardation as it is frequently interrelated with a variety of organic brain dysfunctions may present unclear clinical pictures. This has particular relevance for the forensic practitioner who often needs to present his findings to the court in a clearly demarcated manner. This paper outlines the more commonly encountered entities in this area with consideration to forensic science implications.

KEYWORDS: psychiatry, mental retardation, neuropsychology, organic brain dysfunction, neuropsychological impairment, neuropsychological testing

An often unclear and confounding area for the mental health professional is the group of disorders comprising mental retardation and organically related brain dysfunctions. This murky area has particular relevance to the forensic science practitioner who at times is required to present his findings to the court in as precise a manner as possible.

The relatively high incidence of mental retardation in the offender population has been reported in the literature. Brown and Courtless [1] found in a survey of 207 correctional institutions that 9.5% of 90 477 inmates fell within the range of I.Q.s below 85. March, et al [2], who review a national survey of the adult mental retardates in the criminal justice system, generally concur with these basic findings on prevalence. But these two studies do not clearly address the presence of organic brain dysfunctions which may coexist or exist independently of mental retardation. Other authors [3,4] have commented on the presence of minimal organic deficits with antisocial behavior in the juvenile population.

The present authors working in an inner city forensic psychiatry clinic have been impressed by the significant percentage of subjects whom they have examined who have a complicated mixture of both intellectual and neuropsychological impairment. Such factors as head trauma, acute and chronic substance abuse and poisoning, and severe psychosocial deprivation associated with a high degree of subnormal intellectual functioning are found to a large extent in this population.

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Numerous authors [5-7] have commented on the inadequate research and study of both mental retardation and organic mental disorders in this country. Mental retardation has been referred to by Paris and Haywood [8] as "plagued by definitional problems because of the attempt to place a large heterogeneous collection of individuals into a few homogeneous symptom categories."

The issue is extremely complicated when one considers that mental retardation and varying degrees of organic impairment may be associated with each other. This might cause a difficult appraisal of the case in which one entity, mental retardation, might mask the associated feature of organicity. The net effect of this phenomenon is to increase the extent of diagnostic imprecision.

The purpose of this paper is not an academic discussion of either mental retardation or organicity per se, but to present a practical descriptive delineation of the more common clinical entities in this area that the forensic clinician is likely to encounter. A useful conceptualization is that mental retardation is a generic descriptive term for deficits of intellectual adaptability. Organicity, on the other hand, refers to etiologies of brain dysfunction though the specific causes may be unknown.

For practical purposes, one can demarcate both mental retardation and organic mental disorders and the relationship between them into five distinct categories:

- (1) mental retardation,
- (2) mental retardation with minimal cerebral deficits,
- (3) mental retardation with prominent organic features,
- (4) organic brain syndrome, and
- (5) minimal cerebral (brain) dysfunction (without mental retardation).

Although the above distinctions will be readily acknowledged, they are often not adequately attended to in general daily clinical practice. Even where there is some recognition that differences exist, it is not uncommon for the clinician to routinely request an I.Q. test alone. In the presence of cognitive deficits, what might be even more helpful is to call for an additional assessment of organic impairment. This could provide a more comprehensive picture of cognitive deficits, including an estimation of basic intellectual capacity. These additional data could have critical evaluative, dispositional, and treatment implications.

Mental Retardation

A major difficulty in assessing mentally retarded subjects for the court has to do with the great variability within this population. Paris and Haywood [8] emphasize that "one finds more variability within the mental retardation classification (such as between individuals with I.Q.s of 35 and those with I.Q.s of 70) than between a random group of retarded persons and a group of intellectually average persons!" In the area of competency to stand trial, which is the most frequently ordered court examination, it is not the I.Q. score, per se, that resolves the issue but an assessment of the subject's specific capacities to assume the role of a defendant in a courtroom. Litwack [9] philosophically supports this notion of specified demonstrated capacity and McGarry [10] and others [11, 12] have focused research on and devised checklists of specific cognitive abilities for competency to stand trial. Thus, it is not uncommon, for example, for someone with an I.Q. of 50 to be competent for a specific charge and another defendant with an I.Q. in the 60s to be incompetent for a different charge. It is also possible for the same individual, depending on his specific cognitive abilities, to have the capacity to stand trial on a relatively simple charge and to be incompetent on a more complicated one.

It would appear that the practical definition that has actually filtered down to the clinician is a unidimensional one, namely, an intelligence quotient measure. This is a distortion that tends to ignore the binary formulation of mental retardation, which relies on the constructs of both

intelligence and adaptation [13]; these constructs are considered to be elusive and subjective, respectively. Some authors write that there still persists great confusion about the nature of intelligence. Robinson and Robinson [14] state that "the concept is almost as obscure now as it was many years ago." Cytryn and Lourie [15], invoking Piaget, describe intelligence

not as static but rather as forever changing according to the person's life circumstances . . . the evolving intelligence as a result of a continuous interaction between the child and his environment. . . . [Rather] than describe a retarded person in terms of a magic number that implies a defined store of knowledge, it is easier and more useful to describe his functioning in terms of his arriving at a certain state of his intellectual development, characterized by a specific behavior and reasoning process.

The other key subjective element in the conceptualization of mental retardation is the phenomenon of adaptive behavior. In the most up-to-date revision (1977) of the *Manual on Terminology and Classification in Mental Retardation* [13] is the notion of ". . . deficits in adaptive behavior and manifested during the developmental period" in the definition of mental retardation. This manual provides general descriptions of the highest levels of adaptive functioning per individual per specific environment. The practitioner is then expected to make an essentially clinical judgment whether or not the individual has attained these levels. Consequently, the diagnosis of mental retardation is, to at least some extent, a subjective one. The third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) [16] essentially concurs with these principles.

Another court-ordered examination involving the mental retardate where thorough assessment of specific cognitive abilities could be important is a custody-visitation dispute. The basic underlying principle in custody-visitation disputes in virtually all Family Court jurisdictions pivots on what is "in the best interests of the child." This allows for a wide range of interpretations per individual case. In fact, today Family Court decisions are going through an unprecedented revolution and flux where the novel arrangements such as joint custody and individualized custody permutations are being created by the court. Any objective data could therefore be quite significant in formulating an opinion. In a case where neither parent upon examination presented any psychiatric disturbance or remarkable characterological difficulty, the importance of determining the profile of deficits could add to our understanding and influence the disposition.

Mental Retardation with Minimal Cerebral Deficits

Minimal organic signs which are perhaps better viewed as focused neuropsychological impairment can accompany mental retardation with considerable variability within this population. DSM-III [16] notes this likely association of minimal cerebral deficits which they label as Attention Deficit Disorders with mild and moderate mental retardation. These deficits may partly account for the dispersion of functional abilities noted by Paris and Haywood [8]. Minimal cerebral deficits may be crucial in determining the competency to stand trial of mentally retarded defendants. Such deficits as attention, concentration, specific memory deficiencies, and distractibility are important to assess.

This highlights the relevance of specific and formal neuropsychological assessment techniques that go considerably beyond the perfunctory I.Q. score. For example, in a recent case examined by two of the present authors for determination of competency to stand trial, the defendant was found to have an overall I.Q. of 60 with a verbal of I.Q. of 64 and a performance I.Q. of 51. Mental status examination revealed significant signs of attention impairment and distractibility. He indicated confusion about the reason for his incarceration and could not keep clear in his mind the purpose of the interview. When asked, he was unable to provide a consistently cogent account of the charges and proceedings against him. He continued to mixup the roles of the courtroom functionaries even after repeated explanations. Additional neuropsychological assessment was requested to clarify the variabilities within the perfor-

mance, verbal, and specific subscales in the Wechsler Adult Intelligence Scale (WAIS). A variety of other focused neuropsychological tests were performed. (The reader is referred to Muriel Lezak's book [17] on Neuropsychologic Assessment for a good introduction to the topic.)

Consequently, this confirmed our mental status impression of incompetence. By the neuropsychological testing, documentation and presentation to the court was made possible in clear operational terms. It specified the skills and capacities necessary to assume the role of defendant. This case highlights the importance of making a functional distinction between mental retardation and minimal cerebral deficits regarding a specific forensic question. The commonly requested I.Q. test in the presence of obvious cognitive deficits would have revealed a Full Scale I.Q. which, conceivably, if taken alone, could have resulted in a final determination of "competent." The identification of a significant organic component added a conceptually useful dimension. This separation in one's mind of the components of the presenting cognitive deficits led to a more focused clinical impression which was ultimately substantiated by the empirical data.

Mental Retardation Concurrent with Prominent Organic Features

This category comprises mentally retarded individuals with pronounced organic brain features whose etiology may or may not be known. DSM-III [16] points out that the more severe the mental retardation, the more likely would organic features be present. In only 25% of the cases of mental retardation are the biologic factors known biological abnormalities, the most common being chromosomal and metabolic disorders such as Down's syndrome and phenylketonuria. Aside from birth or early onset of organicity, such as meningitis before the age of 18, the clinician may be confronted with a mental retardate who develops severe organic features later on in life. This may occur by disease process, such as Dementias arising in the senile and presenile states (Alzheimer's and Pick's diseases), alcohol or substance deterioration, or environmental trauma, such as severe head trauma. Important in any subsequent evaluation for organicity would be premorbid baseline data. Severe mental retardation with organicity in relation to competency to stand trial figures in the 1972 landmark Supreme Court decision of Jackson versus Indiana [18]. In that case it was determined that a severely mentally retarded and organic defendant could not be held in a hospital until such time as he would regain his competency to stand trial because that would amount to detaining him for life in a psychiatric hospital.

Organic Brain Syndrome

According to DSM-III [16] "Organic Brain Syndrome" is the generic term which applies to a cluster of psychological or behavioral signs and symptoms such as delirium, dementia, and so forth, whereas "Organic Mental Disorder" is a subset of Organic Brain Syndrome in which the etiology is known or presumed. Obviously, the fact that the etiology may be known or presumed in Organic Mental Disorder makes for more clarity or precise data that the clinician can offer to the court in regard to such issues as the prognostic course of the disorder. This could be crucial for such determinations as capacity to stand trial, presentence recommendations, or civil competency issues.

Lipowski [5] writes "despite their increasing frequency and importance, organic mental disorders constitute the most neglected area of clinical psychiatry in this country." Consonantly, Matarazzo [6] correctly states, "most clinical psychologists and physicians have had, . . . and continued to have, only a very rudimentary understanding of the concept of brain damage. . . . [Most clinicians] have used the term brain damage as a broad band, descriptive, classificatory phrase without further diagnostic delineation or implication." Strub and Black [7], in discussing the behavioral problems of intellectual deficits, assert that the "behavioral problems

within this somewhat uncharted borderland have long been subsumed under the rubric of organic brain syndrome." They go on to say that "[these are] problems that the average clinician sees every day, but has typically never learned about in medical school."

Arthur Benton [19] writes, "... many patients with unquestionable cerebral disease do not show an overall decline in general intelligence of sufficient severity to be reflected in a significant lowering of the WAIS scores. Consequently, this procedure yields a fair proportion of false negative results," as it regards the determination of organicity from mere I.Q. tests. The implication of the above is that in the individual case it is fallacious to conclude that defective intellectual functioning is a necessary condition of organic brain syndrome or vice versa. Cytryn and Lourie [15] point out that "chronic brain syndromes may result in isolated handicaps . . . that may exist in a person of normal or even superior intelligence." These points lead to the realization that a more comprehensive diagnostic assessment should include appropriate neuropsychological batteries. A complete neurological workup with related laboratory procedures in conjunction with neuropsychological testing would be indicated. Especially important could be longitudinal test and retest information for definitive diagnostic and prognostic data.

Minimal Cerebral (Brain) Dysfunction (MBD) (Without Mental Retardation)

The variety of appellations—Minimal Brain Damage, Minimal Brain Dysfunction, Minimal Cerebral Dysfunction, Hyperkinetic Reaction of Childhood, Hyperactive Child Syndrome, and so on—reflect the ambiguity of this clinical entity. As mentioned above, (MBD) is currently diagnosed in DSM-III [16] as a predominantly childhood and adolescent mental disorder called Attention Deficit Disorder with or without hyperactivity, and an additional residual subtype in which hyperactivity is not present but other signs of the disorder persist. The dominant diagnostic criteria are behaviors of inattention, impulsivity, and hyperactivity. Wood et al [20] in their clinical study, have emphasized a group of MBD persons whose active symptomatic picture persists into adulthood. Thus MBD may be misdiagnosed and instead labelled as sociopathy, explosive personality, hysterical character, and labile personality. Elliott [21], reporting on 286 patients with a history of uncontrollable rage dating from early childhood or from a brain injury at a later date, found evidence of developmental or acquired brain defects in 94% of these cases, of which 41% was minimal brain dysfunction. Aside from episodic dyscontrol episodes there were commonly complex partial seizures. The prevalence of MBD has particular significance for those forensic practitioners active in Family and Criminal Courts. As cited earlier, various authors [3, 4] have commented on the prevalence of attention deficit disorder problems associated with antisocial behavior among juveniles. For the court ordered report, this information could be very helpful for dispositional recommendations [22].

Conclusion

This paper has been an attempt to raise the level of awareness about mental retardation and organically related brain dysfunctions for the practising forensic clinician. Sometimes the demarcation between the above-described entities becomes very hazy. This does not detract, however, from the need to delineate them as clearly as possible because sometimes the working clinician may mistake one for another.

The recent developments in technologies of neuropsychological assessment and neurological workups have created new opportunities to clarify these relatively obfuscated entities. Some standardized testing batteries now available are the Halstead-Reitan, Luria-Nebraska, and the various testing instruments generated by the Benton Laboratory at the University of Iowa [23]. Heretofore, it had been sufficient to rule out organicity with a battery of techniques that might have included I.Q. tests, Bender-Gestalt test, and a clinical neurological workup with related laboratory procedures (electrocardiogram [EKG], electroencephalogram [EEG],

Skull Series, lumbar puncture, and radiosopic brain scan). The new generation of computerized radiological procedures such as computerized axial tomography (CAT) and positron emission tomography (PET) scans can be used now in conjunction with the above to refine diagnosis in this area.

This overview is compatible with the empirical, molecular approaches in psychiatric explanation. To the extent that correct psychodiagnosis is important, any further refinement thereof must be considered significant. In support of this approach, Van Praag [24] emphasized the utility of a standardized, objective, psychometric assessment for the sake of advancing a consensus in psychodiagnosis.

At the interface of law and mental health the need for such precision in communication and classification is brought to bear. In this arena, where the clinician and the lawyer often speak different languages, it is extremely important that a commonality in language and conceptualization be promoted. In so doing, we take strides towards increasing the usefulness of psychiatric testimony in the courts.

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