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A Psycholegal Perspective: The Lack of Neuropsychological Examination Following Significant Brain Trauma Can Be Costly

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Abstract

After any significant head trauma or brain-related disorder, adequate neuropsychological follow-up should be the standard of care in helping a person to recover (e.g., to provide an understanding of their strengths and weaknesses and what can be expected during recovery). Unfortunately, as the following case highlights, the absence of this step can be costly in both monetary and emotional terms. The following case is a unique one of a woman who suffered arteriovenous malformations in the right cerebral hemisphere, which resulted in a massive intracranial bleed, requiring neurosurgical intervention. Her neurosurgery was successful, but when she eventually returned to work in the same management position she previously held, her co-workers and supervisors recognized that she was not the same manager. Unfortunately, and as a direct result of the location of her brain lesions, she had no awareness of her job-related difficulties. She eventually brought suit against her employer, claiming discrimination. Had she been referred by her neurosurgeon for neuropsychological evaluation prior to having returned to work, this lawsuit would not likely have occurred; but as a result of the neurosurgeon's assumption that his patient recovered fully in all respects, what turned out to be considerable cognitive and perceptual disabilities were not discovered in a timely enough fashion, resulting in a most unusual lawsuit.

Introduction

Significant alterations in brain function, whether the result of structural, metabolic or electrochemical abnormalities, can disturb human abilities to feel, sense, perceive, think, concentrate, remember, plan and behave. Any of these abilities, alone or in combination, when disturbed can impair a person's ability to return to work following a significant brain lesion (Guilmette & Kastner, 1996; Lezak, 1995).

Although a person's basic abilities may appear to recover fully following successful neurosurgery, more subtle changes in functioning may not be immediately apparent to the patient, her loved ones, friends or colleagues (Prigatano, G.P. & Schacter, D.L. 1991). It may only be over months or longer when the brain-injured person returns to work that she or her colleagues perceive her job performance to have significantly declined.

If the brain-injured patient's treating physician realizes that a variety of subtle yet significant changes in functioning can occur following a brain event, the physician may refer the patient for comprehensive neuropsychological evaluation following the initial rehabilitative period, with a major goal of the evaluation to determine whether there are neuropsychological impairments; and if there are, to determine how and to what extent they might obstruct this person's successful return to work (McMahon & Shaw, 1996).

In the following case, referral to a neuropsychologist was never made by the patient's physician, which reinforced the patient's incorrect belief that she was no different in ability following ruptured aneurysms and subsequent neurosurgery. Thus, she returned to work to the same management position she previously held, beginning at first part-time and eventually returning full time. Her colleagues, supervisors, and customers soon recognized that she wasn't the same person she had been previously. To her great chagrin, her supervisors and colleagues pointed out to her the serious job-related mistakes she was making. Complicating matters, because there was a massive intraventricular hemorrhage in her right cerebral hemisphere, she suffered anosagnosia, a common phenomenon associated with right hemisphere insult (Giacino & Cicerone, 1998). In other words, she was unaware of the changes that had taken place in her cognitive functions. As a result of having no insight into her behavioral and cognitive deficits, she believed that the criticisms made of her were both incorrect and unjust. Her company demoted her in order to try to help her regain her job skills, but she perceived that this demotion was unwarranted, and so concluded that her superiors were discriminating against her based on a misperception that she was disabled. This led to her voluntarily leaving her position and soon after retaining a personal injury attorney who filed a discrimination lawsuit against her company under the Americans with Disabilities Act (ADA) (EEOC, 1991, 1992; Sachs & Redd, 1994).

One of the earliest assessments which a plaintiff or defense attorney needs to make in a discrimination lawsuit is of the plaintiff. This is an especially important determination in those cases where the plaintiff alleges that he or she sustained an injury, either physical or psychological. When a plaintiff alleges that injury was suffered because of the opposing party's either intentional or negligent conduct, it is the plaintiff whom jurors most want to hear from in order to learn such things as the manifestations of the injury and its level of severity. Ordinarily in these cases, plaintiffs have the benefit of assistance from doctors who have treated them. These doctors can then offer corroborative testimony to the plaintiff by describing the plaintiff's symptoms, level of functioning, treatment, and overall prognosis. Because jurors are rarely experienced in the fields of medicine and psychology, a plaintiff's testimony, coupled with that of a doctor, can be very powerful influences before a jury.

At the same time, injury claims asserted by plaintiffs are usually heavily subjective. While doctors who have provided treatment can offer guidance to a jury on more objective factors, the practical reality is that the plaintiff is often the only one who can comprehensively testify about the injury and its effects (or in this case, lack of injury and absence of effects). Sometimes, plaintiffs, in their zeal to litigate claims, exaggerate or even fabricate their injuries. Even more problematic are those cases where a plaintiff honestly believes that she has been injured, despite the fact that the surrounding circumstances do not support that theory. On the other hand, as in this case, plaintiffs can also minimize the serious changes that have taken place as a result of their injuries (Williams, 1997).

Unlike physical injuries such as broken bones, which can be objectively established through the means of an x-ray, psychological injuries alleged in civil litigation are more difficult to prove. Cases involving claims of intentional employment discrimination with accompanying psychological injuries are often of this nature. A plaintiff in a job discrimination lawsuit may claim that she suffered anxiety and depression as a result of harassing conduct of colleagues or supervisors, for example, on the job. She may even offer medical and psychological testimony regarding her treatment for such conditions. The plaintiff's attorney must establish whether the facts of the case are consistent with the damages

the plaintiff alleges have taken place. The defense attorney, on the other hand, must determine how to counterbalance the impact of that evidence. One of the resources available to both attorneys in this scenario is a neuropsychological evaluation of the plaintiff. These types of evaluations, when performed ethically, are designed to provide a more objective barometer of the plaintiff's psychological state by being performed by an outside examiner who has no prior familiarity with the plaintiff (Giuliano, Barth, Hawk & Ryan, 1997).

At the same time, however, attorneys must exercise prudence in determining whether a particular plaintiff should be evaluated. Evaluations of this sort are often quite expensive, in that they involve substantial time spent by the clinician reviewing records, interviewing and testing the plaintiff, and formulating conclusions based upon the information gathered. Even more significant is the potential that neuropsychological evaluations can "backfire" on the requesting party. For example, a clinician asked by a defense attorney to perform an evaluation of a plaintiff may determine that the plaintiff has sustained a substantial psychological injury, and may further conclude that such injury was likely precipitated by the conduct alleged. In this case, the defendant will have expended substantial monies and will have obtained nothing more than yet another adverse witness whom the plaintiff will gladly want to utilize to strengthen his or her allegations. Conversely, a clinician retained by plaintiff's counsel may conclude there was no significant injury as alleged. Therefore, attorneys must be judicious in their use of these evaluations.

The following plaintiff was referred for an independent neuropsychological evaluation by the attorney representing the defendant, her employer. This case is particularly unusual because the plaintiff was alleging she was not impaired whereas the defendant believed she was impaired.

Method

Subject and Case History (All identifying information has been changed to protect the privacy of the individual.)

Ms. Meredith Malone was a 32-year-old college graduate, employed as a restaurant manager for a large restaurant chain. She had been hired at the restaurant four years earlier, first as a manager trainee, then as an assistant manager. She had been working as a restaurant manager for two years, with performance evaluations reflecting above-average performance in all measured areas. She was described in her performance evaluations as a very determined manager who set and achieved goals appropriately. In fact, she was being considered for another promotion when she developed an acute headache, nausea, vomiting and lethargy at work, causing her to literally collapse. She was taken by co-workers to a nearby hospital where an angiography and cerebral arteriogram were performed. The consulting neurosurgeon diagnosed Ms. Malone with a congenital massive intraventricular hemorrhage secondary to a congenital arteriovenous malformation (AVM) coming off the choroidal artery with two small aneurysms. She was given only a 10% chance of survival. A lengthy neurosurgery was performed to remove the aneurysms and insert a ventricular shunt into her right lateral ventricle, which removed some of the blood and relieved some of the pressure that had built up in her head. Following neurosurgery, Ms. Malone developed significant right temporal lobe edema and a small subdural hematoma. Once these medical conditions were dealt with, her physicians stated that they thought she made a remarkable recovery.

Ms. Malone's one-month hospitalization was relatively unremarkable but for the fact that she developed significant seizure activity and was prescribed Dilantin by the neurologist who was responsible for her care.

Approximately six weeks post neurosurgery, Ms. Malone followed up with her neurosurgeon, who noted that she was doing extremely well and was without neurological deficits or visual field problems, although she did report feeling a bit unsteady. A CT Scan of the head showed marked improvement three months post neurosurgery. The neurologist also noted continued improvement. Ms. Malone was still taking Dilantin 300 mg b.i.d. for seizure activity and Tylenol No. 3 for headaches as needed. Her

gait and cerebellar functioning were normal, and she had resumed driving. Four months post surgery, Ms. Malone was seizure-free but was experiencing some intermittent dizziness. Several months later, however, Ms. Malone experienced at least one more grand mal seizure and began experiencing episodes of déjà vu and mouth drooling.

During the recovery period, there was no mention made to any of Ms. Malone's doctors that she was experiencing any cognitive difficulties or personality changes despite the fact that these would be common sequelae after a massive intraventricular hemorrhage. Ms. Malone's neurosurgeon perceived that she did not have brain damage, although his visits with her lasted, at most, 15 minutes. As a result, Ms. Malone was never referred for a formal neuropsychological evaluation despite the nature of her injuries and symptoms the type of which can result from right hemisphere dysfunction or insults (Joseph, 1990).

Six months following Ms. Malone's neurosurgery, she returned to her previous employment but on a part-time basis. Almost immediately upon her return to work, Ms. Malone was observed to have a variety of difficulties. Although Ms. Malone's immediate supervisor was pleased by her enthusiasm to get back to work, he quickly observed a marked change in her work performance. Prior to her neurosurgery, Ms. Malone had been a manager who required very little supervision and learned new things with dispatch. After she returned, however, she did not seem to be the same person. Her supervisor noticed that she now required intense supervision to ensure that job-related tasks were performed satisfactorily. It was noted she was "not up to speed" and needed to relearn skills she had previously mastered. She was socially inappropriate with co-workers and alienated co-workers and customers alike. Her leadership skills became unsatisfactory. She was described as confrontational and insensitive as well as insubordinate. Her language became inappropriate. She began calling in sick frequently, leaving early from work, and demonstrating memory difficulties, such as remembering where documents were stored. She also had trouble remembering restaurant policies and conversations with co-workers. On one occasion, she forgot the PIN number and set off the restaurant's alarm system. On another occasion, she left the safe wide open with money inside. She also had difficulty with certain bookkeeping responsibilities and made frequent arithmetic errors. Ms. Malone's supervisor attempted to work with her to improve her performance; however, when she was confronted with her mistakes, she became angry and defensive. Notably, she had previously gotten along well with her supervisor. Her supervisor perceived that Ms. Malone was refusing to take responsibility for her mistakes and lapses in judgment. Inasmuch as Ms. Malone's performance failed to measurably improve, her employer decided to transfer her to another location and downgrade her managerial responsibilities. This change in work assignment also involved a loss of pay. Ms. Malone was upset by this decision and viewed it as some type of punitive action. By contrast, her employer suggested the demotion was an attempt to help her regain lost skills with the benefit of additional supervisory support.

Ms. Malone worked in her new position as assistant manager for a total of six months before resigning her employment. In those six months, she claimed that her new supervisor harassed her constantly, pressuring her to seek another job because she could not perform to his satisfaction. Like his predecessor, this new supervisor also had to address work-related deficiencies. Because Ms. Malone did not like the supervisor, she became very defensive when he criticized her performance. She claimed that this particular supervisor harassed her to the point where she felt she needed to leave her job. She then resigned and filed a lawsuit against her employer under the Americans with Disabilities Act (ADA), with specific charges of Breach of Contract, Intentional and/or Negligent Infliction of Emotional Distress and Retaliation.

Legal Considerations

In her lawsuit, Ms. Malone alleged that her employer had discriminated against her on the basis of disability under the ADA in the form of demoting her and then forcing her to resign. In a typical ADA case, the plaintiff alleges that he or she was subjected to discriminatory treatment because he or she is disabled in some physical or psychological way. In Ms. Malone's case, however, she took the opposite position. She contended that she was not disabled at all, and that her medical condition and

accompanying neurosurgery had no effect on her ability to properly perform her job duties. Instead, she claimed that her employer, acting through its supervisors, falsely perceived her as disabled and discriminated against her based on that assumption by demoting her.

As a general matter, a defense attorney's usage of a neuropsychological evaluation in civil litigation is geared toward attacking the plaintiff's case theory. For example, this type of evaluation may reveal that, notwithstanding the plaintiff's allegations, no discernible psychological injury exists. It also may show that the plaintiff is exaggerating the manifestations of the alleged injury. In those situations where the evaluation does reveal some degree of injury, it can also be tremendously helpful in exploring and uncovering other potential sources of the injury, separate and distinct from what the plaintiff claims as the precipitating factor. These are all types of issues which a defense attorney wants to put before a judge and jury.

Early on in this case, the employer needed to determine how it was going to address Ms. Malone's allegations. Both Ms. Malone and her treating physicians were inclined to testify that she suffered no noticeable deficits in her mental functioning following her neurosurgery. The employer, however, had the testimony of her two supervisors who, although not trained in the intricacies of medicine and psychology, would be able to attest to their observations of her job performance and the types of problems that were occurring. Although the supervisors' testimony would be helpful, a professional opinion as to Ms. Malone's post-surgical level of functioning would be needed to rebut the testimony of Ms. Malone and her doctors.

The employer thus made the decision to have Ms. Malone submit to a neuropsychological evaluation. As previously stated, there was a risk to perform this evaluation in that if it were determined that Ms. Malone indeed did not suffer any impairment, that determination would prove very useful to Ms. Malone's case presentation. This calculated risk was nevertheless necessary because the lack of any objective support for the employer's position that Ms. Malone was actually impaired would be glaring in front of a jury.

Procedure

Prior to the subject being evaluated, a thorough review of relevant records was performed, including medical records prior to, related to, and following Ms. Malone's neurosurgery. Ms. Malone's educational records were also reviewed in order to determine a base rate of prior academic functioning. Additionally, occupational records from the restaurant were reviewed, including performance evaluations, notices of achievement and reprimands from before the neurosurgery and after Ms. Malone's return to work (Sbordonne and Saul, 2000). Prior to the scheduled neuropsychological examination, Ms. Malone was sent a letter outlining what she could expect from the evaluation and describing informed consent. Furthermore, informed consent was provided orally prior to the commencement of the evaluation. Ms. Malone understood the purpose of the evaluation, the role of the neuropsychologist in litigation, and consented to proceed.

The neuropsychologist conducted a lengthy interview of Ms. Malone, accompanied by her husband, in which her subjective complaints were gathered over a several-hour period. Additionally, in order to evaluate Ms. Malone's cognitive behavioral functioning, a complete neuropsychological test battery was performed. Testing was accomplished by the neuropsychologist and a Master's level psychometrist. The standard administration and scoring procedures were followed for each test. The following tests were performed over a two-day period: Wechsler Adult Intelligence Scale—III (WAIS-III) (Wechsler, 1997); Wechsler Memory Scale—III (WMS-III) (Wechsler, 1997); Lateral Dominance Examination; Halstead-Reitan Neuropsychological Test Battery (Reitan and Wilson, 1993); Hooper Visual Organization Test (Hooper, 1958; Western Psychological Services, 1983); Rey Complex Figure Test (Meyers and Meyers, 1995); Wide Range Achievement Test—3 (WRAT-3) (Wilkinson, 1993); Gross Motor Examination; Stroop Color-Word Test (Golden, 1978); Minnesota Multiphasic Personality Inventory—2 (MMPI-2) (Hathaway and McKinley, 1989); and Millon Clinical Multiaxial Inventory—III (MCMI-III) (Millon, Davis & Millon, 1997).

Results

Test Behavior

Ms. Malone presented without abnormalities of gait, speech, attention, or mood. Remarkable were several occasions that she behaved inappropriately, making sarcastic remarks and mimicking the neuropsychologist's nonverbal gestures. Equally notable was Ms. Malone's complete lack of insight that her behaviors were inappropriate. During tests she found difficult, Ms. Malone became easily frustrated and called the tests "stupid." Her emotions of anger and frustration were manifested in raw form with insufficient self-control. Nevertheless, motivation was adequate, and there were no behavioral signs or test results consistent with malingering or willful symptom exaggeration (Etcoff and Kampfer, 1996).

Neuropsychological Test Results

Tests of gross motor skills were unremarkable but for a mild construction dyspraxia and slightly better dexterity with the right versus left hand. Differences between the hands were subtle, however.

Consistent with a right hemisphere temporal lobe bleed, two left eye upper quadrant suppressions and two left ear auditory suppressions were noted. Furthermore, left-sided tactile perception was impaired in comparison to right-sided tactile perception, which was normal.

Compared to estimated premorbid levels of functioning, there was a mild diminution in working memory on the WAIS-III and WMS-III Working Memory Indices. Divided attention was also diminished, as evidenced on the Trails B and the Stroop Color-Word component.

Using a regression formula to estimate premorbid intelligence (Barona, 1984), Ms. Malone's Verbal IQ would likely have been approximately 114 (83rd percentile). On current testing, her WAIS-III Verbal IQ was 88 (21st percentile), suggesting there was an approximate two standard deviation loss of verbal skills subsequent to Ms. Malone's neurologic event and surgery.

Additionally, there were significant losses in academic skills, as measured on the WRAT-3 in Reading (5th percentile, fifth grade), Spelling (18th percentile, seventh grade), and Computational Arithmetic (16th percentile, seventh grade).

A premorbid estimate of Ms. Malone's perceptual organizational abilities (Barona, 1984) indicates her Performance IQ would likely have been approximately 111 (77th percentile). On current testing, her WAIS-III Performance IQ was 91 (27th percentile). Although this score is within the average range, it does suggest a decline from previous estimated levels of functioning. Furthermore, on tests measuring more complex visual problem solving, Ms. Malone scored very poorly. For example, on the WAIS-III Block Design Subtest, her performance fell at the 9th percentile; and on the Booklet Category Test, she made 113 out of 208 errors for a T-Score equivalent of 13, a score falling in the severe range of impairment (Heaton, Grant & Matthews, 1991).

On several tests and measures of reasoning, hypothesis testing, and problem solving, Ms. Malone performed quite poorly. For example, the Tactual Performance Test (TPT) had to be discontinued after the first of three trials because Ms. Malone couldn't deduce any method that would accomplish the task. Rather, she persisted with a trial-and-error approach until she finally refused to continue several minutes into the task. Had she finished the task, at the rate she was performing, she would have performed in the severely impaired range. Additionally, her responses on the WAIS-III Comprehension Subtest were concrete and simplistic, suggesting significant deficits in verbal reasoning. Finally, her WAIS-III Full Scale IQ was measured at an 89 (23rd percentile), an approximate 24-point drop from her estimated premorbid Full Scale IQ of 113 (81st percentile).

Verbal and visual memory skills were grossly deteriorated both on the WMS-III and Rey Complex Figure Test (RCFT). Her ability to encode information visually was measured at the 3rd percentile on the WMS-III Visual Immediate Index and beneath the 1st percentile on the RCFT. Ms. Malone's

ability to encode auditory-verbal information fell at the 1st percentile on the WMS-III Auditory Immediate Index. Delayed recollection was measured at the 2nd percentile on the WMS-III General Memory Index and beneath the 1st percentile on the RCFT. Even with visual and auditory-verbal cues, Ms. Malone's delayed recognition of information, both visual and verbal, was extremely impaired.

During her evaluation, Ms. Malone did not appear depressed or overly anxious. She didn't appear to be experiencing significant emotional discomfort. Consistent with her clinical presentation, objective personality test results indicated that she did not perceive herself as experiencing emotional turmoil to any significant degree.

Discussion

The position of restaurant manager required the job incumbent to be adaptable to changes in technology, customer needs, schedules and procedures. The position also required the ability to be team oriented and cooperative. Ms. Malone's supervisors and co-workers perceived that she was no longer the same capable restaurant manager upon returning to work; that she kept forgetting company policies and procedures (even after they were retaught) as well as co-worker and customer conversations she had heard less than an hour before. Their perceptions were consistent with her WMS-III General Memory Index Score of 70 (2nd percentile). Additionally, the contention that Ms. Malone could not relearn managerial tasks and procedures despite whether they were presented auditorily or visually was consistent with the WMS-III Immediate Memory Index Score of 61 (< 1st percentile).

Ms. Malone's co-workers' perceptions that she was making poor decisions that required immediate problem solving, common sense and judgment was evident in her performances on the Category Test, Tactual Performance Test, and WAIS-III Full Scale IQ of 89 (23rd percentile).

Ms. Malone's fifth grade reading skills could very well have interfered with her ability to read and understand company or other manual publications as well as all other forms of written communication. Her compromised spelling skills (7th grade) would have interfered with her ability to write a variety of communications, including performance evaluations, letters and memos to customers, coworkers, management and company officials. Her compromised arithmetic skills (7th grade) would likely have interfered with the job requirements having to do with bookkeeping and financial reporting. Her employer might have been able to accommodate these academic losses to some degree by providing her with computer software that could read written materials to her, a spell check, and a calculator; but to what extent would these accommodations have assured the company that Ms. Malone's work product would have been acceptable? How many arithmetic errors could the company be reasonably expected to tolerate? How much extra supervision could the company reasonably have been required to provide to assure Ms. Malone's work product accuracy?

One can argue that the most significant neuropsychological deficit suffered by Ms. Malone was her lack of self-awareness that she had so many recently acquired information processing impairments (Sherer, Bergloff, Levin, High, Oden & Nick, 1998). Without adequate self-awareness, Ms. Malone could not have been expected to gauge her effect on subordinates, colleagues, supervisors, or customers. Also, Ms. Malone's low frustration tolerance and tendency to become verbally disinhibited when she became frustrated could not have been long tolerated or accommodated in the workplace.

For all of the above-mentioned reasons, a preponderance of the neuropsychological evidence indicated that Ms. Malone would not have been able to function successfully or independently in her previous job as a restaurant manager.

It was recommended that Ms. Malone be given supportive feedback from the neuropsychologist whenever her attorney decided in consultation with her and her husband that such feedback would be advisable, given her legal case. It was also recommended that Ms. Malone be provided supportive psychotherapy in order to help her understand the profound effects of her brain injury on her daily cognitive functioning and social skills (Prigatano, 1991). Unfortunately for Ms. Malone, such neuropsychological support had not been provided before her return to work, as her evaluation results were classic sequelae to a right hemisphere injury (Joseph, 1990).

Furthermore, it was recommended that Ms. Malone consider allowing her husband to be given feedback from the neuropsychologist or her psychotherapist regarding her impairments and disabilities so that Mr. Malone might become a fully informed partner in helping to improve the quality of his wife's life. Finally, it was suggested and hoped that Ms. Malone would consent to providing her neurosurgeon with a copy of her neuropsychological evaluation in order to remind him of the importance of neuropsychological follow-up in cases where significant brain insult has occurred.

From a legal perspective, the neuropsychological evaluation proved useful on two levels. First, it provided objective, unchallenged evidence which demonstrated significant impairments suffered by Ms. Malone. From the attorney's perspective, had the case gone to trial, that evidence would have likely been persuasive to a jury, particularly the deficits Ms. Malone had in reading, spelling, and arithmetic.

Second, and perhaps more importantly, the neuropsychological evaluation provided a frank assessment to Ms. Malone of the extent of her limitations. As previously stated, none of her treating physicians believed that she was experiencing any cognitive difficulties, and therefore she had no reason to believe that her brain injury had resulted in any long-term neuropsychological deficits. With the evaluation, however, Ms. Malone was confronted, for the first time, with the fact that she was a different person, as her colleagues and supervisors at work had earlier observed. That recognition by Ms. Malone represented a turning point in the case. Where previously she and her attorney had been aggressive in their pursuit of her discrimination claims, they now had to re-evaluate the merits of her case. Ultimately, the case was settled for a nominal sum, representing a victory for both parties.

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