

**Implications of Traumatic Brain Injury
for Survivors of Sexual Abuse:
A Preliminary Report of Findings**

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ABSTRACT. The authors' purpose for presenting these cases is to report on some clinical observations that may have relevance for a subgroup of individuals recovering from a traumatic brain injury. Specifically, the authors observe that a group of patients who reported histories of childhood sexual trauma and then sustained a TBI as adults are experiencing a reemergence of intrusive recollections and other symptoms related to the abuse. Further, the appearance of these posttraumatic stress-type symptoms—sometimes after years of nonoccurrence—frequently proves disruptive to the patient's rehabilitation process. Possible structural, chemical, and phenomenological factors are discussed. The authors' observations raise the possibility that individuals who have made the best recoveries from childhood sexual trauma are the most vulnerable to the reemergence of posttraumatic stress disorder symptoms subsequent to the TBI. These provisory observations would suggest that sensitive inquiry regarding abuse history should be considered as part of any clinical interview with patients who have sustained neurological trauma.

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Rehabilitation professionals frequently treat patients with traumatic brain injury (TBI). The cognitive, affective, behavioral, and sensory–motor sequelae of such a disruptive event are the focus of increasing purview and study, and the survivors of such trauma present many challenges to the rehabilitation team. Although it is likely that many cases of mild TBI go untreated, approximately 370,000 cases annually result in hospitalization (see Kraus, 1993).

Treatment of individuals for the residual effects of sexual trauma is a frequent occurrence in mental health facilities. Estimates of children who are subjected to sexual abuse, although far from exact (Follette, 1994), range from about 15% to 33% of reported samples, with approximately 250,000 cases of childhood abuse reported per year (van der Kolk, 1994). The rate of sexual abuse in female clinical populations is probably much higher (Briere & Zaidi, 1989). According to Briere (1992), approximately one third of women in the United States will sustain some type of “victimization” before 18 years of age. Furthermore, although it is known that many clinical populations have high frequencies of sex abuse histories (see Briere, 1992), it is also putative that the majority of trauma victims make life adjustments that do not result in either legal purview or mental health intervention.

We have become increasingly interested in patients with a history of sexual abuse who then sustain a TBI. In our shared and individual treatment settings, it has become increasingly apparent that patients with a history of sexual abuse who have subsequently sustained a TBI frequently report experiencing difficulty related to past sexual trauma through the reemergence of intrusive sequelae associated with sexual abuse. The displayed symptomatology is of the type common in sufferers of posttraumatic stress disorder (PTSD), including intense flashbacks, behavioral and affective disturbances, nightmares, and hypervigilance. Also noteworthy is that these behaviors can have a significant deleterious effect on rehabilitation efforts. Patients we have encountered report that after years of not experiencing these types of intense recollections, subsequent to the TBI, they again experience vivid, intrusive, and disruptive episodes of past sexual trauma. This situation is even more alarming to patients in view of their diminished postinjury life functioning.

We offer two cases as illustrations of the problems presented by sexually abused individuals who then sustain a TBI. Neither of these cases represent the extreme in regard to severity of impairment for either sexual abuse or TBI. The first case is more at the mild end of the continuum, illustrating how less severe effects of trauma still impinge on treatment. The second case reflects more severe postinjury and rehabilitation disruption.

CASE 1

Mrs. Jones (a pseudonym), a 21-year-old, recently married Caucasian woman, presented for outpatient treatment with complaints of mood instability, specifically anger and depression, secondary to TBI. Collateral issues on initial presentation included problems with control of post-TBI headache pain. The patient had

sustained a moderate closed head injury as the result of a motor vehicle accident 12 months before this outpatient treatment. She had received outpatient therapies, including speech and language therapy, physical and occupational therapies, and social work services, at a local hospital. It was at the conclusion of this year of treatment that she was referred for further psychological intervention as a result of her continuing behavioral–affective difficulties. Mrs. Jones had made significant progress with rehabilitation and was on the verge of resuming her attendance at a local community college to work on her associate’s degree. She had been an honor student before the injury and believed that she could handle a part-time course load.

After three sessions of psychotherapy, Mrs. Jones disclosed that she was having intrusive recollections of two traumatic sexual episodes that she had experienced as a youth, one involving molestation by a male babysitter and the other involving her uncle. Both episodes involved extensive fondling as well as oral sex. These events occurred when the patient was approximately 4 and 6 years of age. She had informed her mother of the first episode, had not been believed, and had not divulged the subsequent episode involving her uncle because he had cried and begged her to remain silent. Mrs. Jones felt that she had “dealt with” these traumas, to the extent of even confronting her uncle during early adolescence. Before the TBI, with the exception of delimiting select sexual responses (e.g., oral sex), she denied experiencing any overt sequelae from the abuse episodes.

However, Mrs. Jones reported that during her recovery from TBI, she began experiencing intrusive recollections of the two traumatic episodes, which were unnerving and served to further impede attention, concentration, and sleep. The next five therapy sessions focused on helping the patient to reprocess the abuse episodes. She responded well to narrative techniques in which the events were outlined in detail. The patient subsequently reported no further intrusive memories and was able to focus her energies on dealing with other post-TBI emotional–behavioral sequelae and continuing with her education.

CASE 2

Ms. Clark (a pseudonym) was a 48-year-old, single Caucasian woman who was seen on an inpatient basis in a subacute hospital setting. She had sustained multiple orthopedic injuries secondary to a motor vehicle accident 1 month earlier, including a mild TBI. As a result of spinal injuries, Ms. Clark was placed in a halo, resulting in restricted mobility. She was responding well to therapies but had complained to the speech and language pathologist that she was having difficulty with “uncomfortable memories.” Bedside psychological consultation yielded the information that Ms. Clark was a high school teacher with almost 30 years of experience and that she had a lengthy (greater than 1 year) and brutal history of sexual abuse that began at an early age. The patient had relocated to a different state during mid-adolescence, had graduated from college, and had

become a teacher. She reported ongoing psychotherapy of 18 years in duration, specifically targeting the sequelae of sexual abuse, and credited this treatment as an important reason for her adult stability.

Ms. Clark reported that while recovering from her accident-related injuries, she began experiencing new and intrusive recollections of a select childhood abuse episode that involved forcible sodomy. Indeed, this was reported to be emotionally quite disruptive, and in addition to the significance of other variables discussed later, it also seemed that her inability to move (as a result of the halo and rods placed in her fractured leg) was serving as an environmental cue to state-dependent memories (van der Kolk, 1994).

The patient had been involved in abreactive therapeutic work in the past, but this treatment modality was ruled out as a result of the likelihood of her reacting with a physical movement. The decision was made by the patient and Russell H. Reeves that this episode would be better contained until such a time that treatment could be addressed in a more comprehensive fashion. The patient proved to be a good hypnosis subject, and induction was undertaken with two short-term goals: (a) to have the patient learn a technique for calming in the hospital and (b) to provide her with imagery in which she could control the flashbacks until she was ready to deal with them (i.e., placing the scene in a book and "closing the cover").

The hypnotic induction was taped at bedside, and she began using a tape recorder to replay the tape two to three times per day. Her psychotherapist was also contacted and visited her in the inpatient setting. Although alarmed by her postinjury physical status, he gamely provided reassurance that they would deal with the episode when her orthopedic injuries had sufficiently resolved. Ms. Clark was also started on selective serotonin reuptake inhibitors medication, which proved helpful in terms of distancing the emotional effects of the episode. She was able to proceed with inpatient rehabilitation over the course of the next few weeks until transferred to an outpatient facility.

DISCUSSION

Recognizing the probable bias of retrospective case assessment, we are finding that it is a frequent, if not typical, phenomenon for patients with a history of sexual trauma to experience a reemergence of PTSD-like symptoms subsequent to sustaining a TBI. Furthermore, our observations point to the possibility that the individuals who have made a relatively more adaptive adjustment to sexual abuse trauma may actually be those who experience more disruptive PTSD-related symptoms secondary to sustaining a TBI. We offer several possible reasons for this phenomenon involving (potentially) structural, neurochemical, or phenomenological variables. For example, research on the physiology of trauma and traumatic emotional conditioning suggests that long-term limbic system responses to trauma can be ultimately muted by the neural structures in the prefrontal regions of the cerebral cortex (Goleman, 1995; van der Kolk, 1994).

That is, the traumatized individual develops a hyperaroused limbic system that, over time, may be governed somewhat by prefrontal neural structures, especially those in the right prefrontal area. In many cases of TBI—especially when a motor vehicle accident is the precipitating event—the victim sustains either coup or contracoup damage to the prefrontal areas. The bony protrusions of the interior of the skull in that region may also work to enhance neurological insult to prefrontal brain tissue. We hypothesize that these structures that serve to modulate the effects of increased amygdala activity are more vulnerable to damage during this type of an injury, thus returning the patient to a condition in which he or she is again more likely to experience less modulated effects of limbic system (especially amygdala) arousal.

It is also possible that select manifestations of the neurological “posttraumatic syndrome” (see Lishman, 1987) commonly seen after a TBI serve to make the patient more vulnerable to intrusive recollections of past trauma. According to van der Kolk (1994), trauma victims are much more receptive to intrusive recollections of sexual abuse when under the influence of alcohol or drugs, with aging, and while asleep. This decreased inhibitory control is quite consistent with the just-mentioned TBI stimulus condition, which can include but is not limited to dementia, compromised attention and concentration, intense fatigue, increased irritability, sleep disturbances, and a tendency toward increased nightmares. These symptoms clearly would seem to serve as agents for this diminished control. Furthermore, when patients sustain a TBI, they frequently experience increased levels of anxiety during recovery, as an attempt to cope with cognitive and physical problems, deal with the recovery process, and relearn preinjury tasks. We hypothesize that, in at least some cases, individuals who sustain a TBI and were also previously sexually traumatized respond to increased stress in a different fashion. “Thus high states of arousal seem selectively to promote retrieval of traumatic memories, sensory information or behaviors associated with previously traumatic experiences” (van der Kolk, 1994, p. 259).

Related to the concept of decreased inhibitory control, physiological changes in the form of neurohormonal surges are thought to be involved in TBI (Lishman, 1987). These include changes in serotonin and other select catecholamine activity, which may serve to enhance the likelihood of flashbacks. A possible analogy is a study by Southwick et al. (1993). They demonstrated that PTSD patients who received yohimbine were more likely to incur both panic attacks and flashbacks.

Also, as illustrated in our second case presentation, cognitive–phenomenological variables, such as the issue of control, can have important cueing properties in terms of occasioning intrusive and unwanted traumatic material. It seems evident that many people who sustain traumatic injuries secondary to a motor vehicle accident will be in a position of significantly decreased or diminished control over their lives. The physical restrictions imposed by casting, traction, halos, splinting, and so forth would also increase the likelihood of a patient experiencing a state of diminished control.

CONCLUSION

Over the past 2 years, we have become increasingly alert to the possibility that rehabilitation patients who have sustained a TBI and also have a preinjury history of sexual trauma may begin to reexperience intrusive recollections of those former traumatic events. Our results need to be qualified by the fact that our observations are based on a small number of cases investigated in a largely retrospective fashion. Nonetheless, our data suggest that many individuals who have sustained a TBI, especially as a result of a motor vehicle accident, experience a sudden increase in the intensity or frequency of fragmented but intrusive recollections related to previous sexual trauma.

These preliminary findings appear worth reporting for several reasons. For example, we wonder whether other clinicians are observing the same phenomenon in isolated cases they are treating. Of note is that informal polling of rehabilitation staff indicated that patients may not be routinely screened for sexual abuse when seen for frequent postinjury rehabilitation issues. It seems likely that sexual trauma is disclosed on questioning when the patients have a more maladaptive preinjury history that would include substance abuse, sexual acting out, or other borderline personality characteristics.

Note that a smaller subset of our patients with sexual abuse histories did not report postinjury increases in flashbacks or other intrusive recollections of sexual trauma. Interestingly, these individuals tended to have much more maladaptive adult histories, including significant alcohol and drug abuse and other types of antisocial behavior (such as prostitution), and, in general, more limited life adjustment. At least with our patients, it seems that those with better adjustment to childhood trauma tend to have more reemerging symptoms after TBI.

Our observations raise many questions. Is there any relationship between severity of sexual trauma and prevalence of significant post-TBI intrusive recollections of this trauma? Does preinjury adjustment to sexual abuse relate to the chance of increased post-TBI flashbacks? Do postinjury neuropsychological test data, especially data assessing prefrontal functioning, correlate with this condition? Do treatment strategies need to vary as a result of postinjury cognitive impairments that a patient may experience? Do "resilience" factors (e.g., confidence, self-worth, or hope; Liem, James, O'Toole, & Boudewyn, 1998) or other forms of "emotional intelligence" (Goleman, 1995) have an impact on this phenomenon? Related to resilience is the issue of (previous) treatment for sexual abuse. Liem et al. (1998) reported data suggesting that more resilient individuals who were sexually abused may be the victims who never sought treatment in the first place. Other issues related to abuse severity that also affect a person's ability to cope with trauma (e.g., the presence of physical coercion at the time of abuse) versus more dynamic variables (e.g., patient attributional styles) would be worth investigation as well. In the interim, however, these preliminary data suggest the importance of careful inquiry when providing mental health services to patients who have sustained a TBI.

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Received June 1, 1999

Revision received July 10, 1999

Accepted July 22, 1999