

Roundtable Discussion

TBI: Fitting The Pieces Together

Traumatic brain injury (TBI), the “signature” injury from the war in Iraq, presents a puzzling challenge for all involved — from affected service members, to families, to clinicians, to researchers, to federal agencies, to Congress. Particularly enigmatic is mild to moderate TBI, in which symptoms can be hidden or delayed, diagnosis is difficult, and optimum treatment remains undetermined.

The exposure dose for mild TBI has not been characterized, and variation in individual response confounds this fuzzy picture even further. Some wounded personnel undoubtedly return to duty without knowing they have been injured, perhaps only to suffer further brain trauma.

While numerous programs are being undertaken to parse mild TBI and its consequences — and to deal with them — their relationship to each other often is not clear. In an effort to assess how the varied pieces of the TBI puzzle might “fit together” more productively and with greater benefit for affected individuals and families, the nonprofit U.S. Medicine Institute for Health Studies convened a roundtable discussion involving representatives from federal agencies, congressional staff, professional associations, academia and beneficiary groups.

The bottom-line message to emerge from the discussion: While progress is being made, much remains to be accomplished — education for families and clinicians who deal with the initial signs of mild

TBI, development of better diagnostic criteria and tests, research into new ways of addressing mild to moderate TBI, and more substantive collaboration.

Recommendations made during the roundtable include:

- *More partnering is needed between the Defense Department, the Veterans Affairs Department, and the National Institutes of Health.* A plea was made for designation of a single individual in charge of TBI programs across all involved federal agencies, and for creation of a single research clearinghouse for TBI.

The decision as to when a patient should transition from DoD to VA care is a difficult clinical line to draw and one that needs to be better defined collaboratively. Help for families is crucial; an estimated 50 to 60 per cent of spouses of brain-injured patients suffer from depression themselves.

NIH participants noted they do much research of potential relevance to TBI — the impact of injury on the developing brain, neuroprotection, using stem cells to restore function — and offered to partner with VA and DoD in such efforts. “Let’s leverage and coordinate our resources.”

- *Some rule changes are needed.* Once an injured service member leaves active-duty, he or she incurs copays under Tri-Care — which is seen by troops and families as inherently unfair. It was suggested that legislation be enacted to allow VA to serve as a second payor under TriCare.

Discussion Highlights

- **Closed-head injuries are much more prominent in Iraq than in previous conflicts. For example, in Vietnam, 14 per cent of wounded suffered brain injuries; in Iraq, that figure is double — 28 per cent suffer such injuries.**

- **An unknown number of personnel in Iraq exposed to blast injury will have late onset of symptoms. But which ones, and why? Pathophysiology studies are needed to answer these questions. A joint VA-DoD committee is being created to develop guidelines for evidence-based treatment of mild TBI.**

- **Those affected by mild TBI may continue to do well in-theater, where there is a firm structure to guide their actions. But when they return home and must make decisions, they find it difficult to function. Consequently, families and/or primary-care physicians often make the first diagnosis of mild TBI and need support in this area.**

- **When is the “magic moment” at which an individual’s care should be handed from DoD to VA? This needs to be determined based on prognosis and treatment requirements. And, rather than speaking of “seamless transition” between the two agencies, a better concept would be to provide “continuous care.”**

- **Congress has been generous in funding TBI clinical and research programs. The challenge is to use this money most effectively — to develop valid diagnostic tests, useful clinical guidelines and productive research.**

Another recommended change would be to allow VA greater flexibility in caring for family members of veterans.

Beneficiary groups want to see an “umbrella” of benefits based on need, not active-duty or veteran status. This “umbrella” should be invisible to patients and families. “We don’t care who signs the checks; we were told we would get the best care, period,” one noted.

It also was proposed that family members be compensated as work therapy providers.

- *Making greater user of technology:* VA uses telemedicine to link providers and patients dealing with TBI injuries. A project by the Army Medical Research and Materiel Command, in collaboration with the National Academy of Engineering, is built around a “systems engineering” approach to the TBI patient. One nascent project will focus on access to care through technologies trendy with young adults, such as iPhones and You Tube clips.

A Different Paradigm

The war in Iraq is the first major conflict to be fought by an all-volunteer force. In previous wars, those injured were shipped home; in the Iraq conflict, many of those injured want to remain on active duty — something their commanders wish as well. This complicates the transition between DoD and VA care.

The large number of National Guard and Reserve personnel serving in Iraq is another paradigm change from previous conflicts. Many Guard and Reserve members live in rural areas, making it difficult to follow them and provide care for symptoms that may emerge months after their

return. “Guard and Reserve with repetitive mild injuries may be most at risk.”

An estimated 70 to 90 per cent of mild TBI cases improve without intervention, and an estimated 70 to 80 per cent are able to return to duty. But, without better clinical markers, determining which safely can do so is uncertain. Identifying those at risk and enrolling them in a registry would enable the epidemiologic studies for making such evaluations.

Current Efforts

A program begun at Ft. Campbell, Ky., provides a baseline neuropsychiatric screen for troops heading to Iraq; the same screen will be administered post-injury, to determine if cognitive deficits can be detected.

The Defense and Veterans Brain Injury Center (DVBIC) at Walter Reed is a collaborative program between DoD, VA and a civilian contractor that engages in clinical care and research activities across multiple sites (<http://www.dvbic.org/>) for a range of TBI injury, from severe to mild. The VA operates four polytrauma rehabilitation centers designed to treat multiple types of injuries and cross-staffed with military medical professionals — in Richmond, Tampa, Minneapolis, and Palo Alto — and is planning a fifth in San Antonio. Seventeen additional VA network sites are not as sophisticated but can provide multidisease care closer to a veteran’s home (www.polytrauma.va.gov).

Many of those wounded in Iraq have a range of injuries, from limb loss to severe TBI to PTSD, in various combinations. The number of mild TBI cases remains unknown, however, and herein lies the chal-

lenge. Some roundtable participants said current efforts to deal with TBI focus too heavily on inpatient care in DoD and VA centers and do not sufficiently involve civilian outpatient settings, where many patients initially will be seen.

With DoD and VA together spending \$200 million a day on medical care, there is much that can be done, participants noted.

Participants in this roundtable: Carey Balaban of the University of Pittsburgh; Cynthia Bascetta of GAO; Meredith Beck of the Wounded Warrior Project; William Brew of the Senate Veterans Affairs Committee; David Burriss of USUHS; William Cahill of the Senate Veterans Affairs Committee; Renee Campos of MOAA; S. Ward Casscells of the Defense Department; Barbara Cohoon of the National Military Family Association; John Crum of Humana Military Healthcare Services; Dolores Dunn of the House Veterans Affairs Committee; John Eckstrand of the TriCare West Region; Debbie Funk of TriWest Healthcare Alliance; Jordan Grafman of NIH; Kelly Halverson of the Defense Department; Michael Handrigan of AHRQ; Karen Heath of the Commission on the National Guard and Reserves; Katherine Helmick of the DVBIC; Richard Ivins, clinical neuropsychologist; Michael Jaffee of the DVBIC; Michael Kussman of the Veterans Affairs Department; Frank Maguire of TriWest Healthcare Alliance; David McIntyre of TriWest Healthcare Alliance; David Moore of the DVBIC; Gregory O’Shanick of the Brain Injury Association of America; Ron Poropatich of the U.S. Army; Morgan Sammons of the U.S. Navy; Ana Smythe of MOAA; Loree Sutton of the Defense Department; Ernest Takafuji of NIH; Michele Traficante of the Commission on the National Guard and Reserves; Cathy Wiblemo of the House Veterans Affairs Committee; and Michael Xydakis of USUHS.

The roundtable was moderated by Rick Erdtmann of the Board on Military and Veterans Health at the Institute of Medicine. USMI Managing Director is Nancy Tomich (www.usminstitute.org). The roundtable was sponsored by TriWest Healthcare Alliance.