

## Veterans and Brain Disease

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[http://www.nytimes.com/2012/04/26/opinion/kristof-veterans-and-brain-disease.html?\\_r=1&hpw#h\[\]](http://www.nytimes.com/2012/04/26/opinion/kristof-veterans-and-brain-disease.html?_r=1&hpw#h[])

He was a 27-year-old former Marine, struggling to adjust to civilian life after two tours in Iraq. Once an A student, he now found himself unable to remember conversations, dates and routine bits of daily life. He became irritable, snapped at his children and withdrew from his family. He and his wife began divorce proceedings.

This young man took to alcohol, and a drunken car crash cost him his driver's license. The Department of Veterans Affairs diagnosed him with post-traumatic stress disorder, or P.T.S.D. When his parents hadn't heard from him in two days, they asked the police to check on him. The officers found his body; he had hanged himself with a belt.

That story is devastatingly common, but the autopsy of this young man's brain may have been historic. It revealed something startling that may shed light on the epidemic of suicides and other troubles experienced by veterans of wars in Iraq and Afghanistan.

His brain had been physically changed by a disease called chronic traumatic encephalopathy, or C.T.E. That's a degenerative condition best-known for affecting boxers, football players and other athletes who endure repeated blows to the head.

In people with C.T.E., an abnormal form of a protein accumulates and eventually destroys cells throughout the brain, including the frontal and temporal lobes. Those are areas that regulate impulse control, judgment, multitasking, memory and emotions.

That Marine was the first Iraq veteran found to have C.T.E., but experts have since autopsied a dozen or more other veterans' brains and have repeatedly found C.T.E. The findings raise a critical question: Could blasts from bombs or grenades have a catastrophic impact similar to those of repeated concussions in sports, and could the rash of suicides among young veterans be a result?

"P.T.S.D. in a high-risk cohort like war veterans could actually be a physical disease from permanent brain damage, not a psychological disease," said Bennet Omalu, the neuropathologist who examined the veteran. Dr. Omalu published an article about the 27-year-old veteran as a sentinel case in *Neurosurgical Focus*, a peer-reviewed medical journal.

The discovery of C.T.E. in veterans could be stunningly important. Sadly, it could also suggest that the worst is yet to come, for C.T.E. typically develops in midlife, decades after exposure. If we are seeing C.T.E. now in war veterans, we may see much more in the coming years.

So far, just this one case of a veteran with C.T.E. has been published in a peer-reviewed medical journal. But at least three groups of scientists are now conducting brain autopsies on veterans, and they have found C.T.E. again and again, experts tell me. Publication of this research is in the works.

The finding of C.T.E. may help answer a puzzle. Returning Vietnam veterans did not have sharply elevated suicide rates as Iraq and Afghan veterans do today. One obvious difference is that Afghan and Iraq veterans are much more likely to have been exposed to blasts, whose shock waves send the brain crashing into the skull.

"Imagine a squishy, gelatinous material, surrounded by fluid, and then surrounded by a hard skull," explained Robert A. Stern, a C.T.E. expert at Boston University School of Medicine. "The brain is going to move, jiggle around inside the skull. A helmet cannot do anything about that."

Dr. Stern emphasized that the study of C.T.E. is still in its infancy. But he said that his hunch is that C.T.E. accounts for a share — he has no idea how large — of veteran suicides. C.T.E. leads to a degenerative loss of memory and thinking ability and, eventually, to dementia. There is also often a pattern of depression, impulsiveness and, all too often, suicide. There is now no treatment, or even a way of diagnosing C.T.E. other than examining the brain after death.

While the sports industry has lagged in responding to the discovery of C.T.E., and still does not adequately protect athletes from repeated concussions, the military has been far more proactive. The Defense Department has formed its own unit to autopsy brains and study whether blasts may be causing C.T.E.

Frankly, I was hesitant to write this column. Some veterans and their families are at wit's end. If the problem in some cases is a degenerative physical ailment, currently incurable and fated to get worse, do they want to know?

I called Cheryl DeBow, a mother I wrote about recently. She sent two strong, healthy sons to Iraq. One committed suicide, and the other is struggling. DeBow said that it would actually be comforting to know that there might be an underlying physical ailment, even if it is progressive.

"You're dealing with a ghost when it's P.T.S.D.," she told me a couple of days ago. "Everything changes when it's something physical. People are more understanding. It's a relief to the veterans and to the family. And, anyway, we want to know."