Posttraumatic Stress Disorder and Dementia

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EDITOR'S NOTE

Through this column, we hope that practitioners in general medical settings will gain a more complete knowledge of the many patients who are likely to benefit from brief psychotherapeutic interventions. A close working relationship between primary care and psychiatry can serve to enhance patient outcome.

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Posttraumatic stress disorder (PTSD) was prominently discussed after the United States was attacked by terrorists on September 11, 2001. Over 100,000 people witnessed these events, and many of us read about or watched video of the attacks in the media.[1] However, PTSD, then, was hardly a new phenomenon. The disorder was most often associated with soldiers in combat and has been described as nervous shock, compensation neurosis, shell shock, and war neurosis.[2] In 1978, PTSD was associated with veterans returning to the United States from Vietnam.[3]

In our geriatric patient population at the Veterans Affairs (VA) hospital, PTSD is commonly encountered. The disorder forms a part of the medical history of many of our patients. Criteria for diagnosis include (1) exposure to actual or threatened death; (2) intrusive memories, nightmares, flashbacks, or physiologic reactions to cues that resemble an aspect of the traumatic event; (3) persistent avoidance of stimuli associated with the traumatic event; (4) negative alterations in cognition and mood associated with the traumatic event; and (5) alterations in arousal and reactivity associated with the traumatic event (angry outbursts, hypervigilance, exaggerated startle response, sleep disturbance).[4]

Although PTSD can occur following sexual violence, motor vehicle accidents, fires, and earthquakes, as well as following physical attacks on civilians, experience in combat remains the most common initiating event. There is a known high comorbidity of PTSD with other anxiety disorders, depression, and substance abuse, as well as a strong association with suicidal behavior.

Another commonly encountered problem in our patient population is dementia, today referred to as neurocognitive disorder. While Alzheimer's disease is the most common form, Lewy body dementia, vascular dementia, dementia due to traumatic brain injury, substance or medication-induced dementia, and dementia associated with Parkinson's disease, infection, or Huntington's disease are all seen.

The hallmark of dementia is memory impairment. Typically, it is accompanied by other cognitive defects: impairment in language and decreased intellectual functioning. Over time, there is a decline in social and occupational functioning.[5]

Is there a clinical association of these 2 conditions: PTSD and dementia? That is the question raised by this article, along with some suggestions for future study. In 2005, 11.5% of veterans in VA primary care clinics were being treated for PTSD.[6] The prevalence of PTSD among soldiers who fought in Iraq and Afghanistan has been estimated at 17%.[6] Two case studies illustrate a looming problem and potential association for patients with long-term PTSD. We believe that their stories may be increasingly common.

CASE 1

Mr A is a 61-year-old man with a long history of severe PTSD characterized by agoraphobia and flashbacks. He lives with his wife, who stated that in the past 2 years, her husband has had frequent falls and has acted confused. He has developed progressive trouble dressing himself and has become bewildered while in the bathroom. He has gradually required more help with bathing and toileting and is often incontinent. A long-term chain smoker, Mr A now has difficulty performing the sequence of steps required to select a cigarette and light a match to it.

On physical examination, Mr A is an unshaven man with a coarse tremor and obvious word-finding difficulties, who often defers to his wife to answer questions. His gait and gestures indicate bradykinesia. A neurocognitive evaluation documented "significant aphasia, apraxia, disturbances of execrative functioning, and specific difficulty in sequencing and organizing information." He was diagnosed with Lewy body disease (*DSM-5* criteria).

CASE 2

Mr B, a 66-year-old man, also has a history of severe PTSD, for which he was first hospitalized in 1966. His wife first reported his recurrent falls, bradykinesia, and confusion 2 years ago. That year, the veteran received a neurocognitive evaluation that documented cognitive impairment. A head computed tomography scan showed "frontotemporal atrophy compatible with age and mild periventricular changes." An evaluation conducted in 2014 concluded that he had "progressive dementia."

DISCUSSION

Two recent studies have confirmed an association between a history of PTSD and the development of dementia. In a database study, Qureshi et al[7] reviewed 10,481 veteran records over 9 years. Nearly half had a history of PTSD. All subjects were older than 65 years, with a mean age of 73. Those with PTSD had twice the incidence of dementia.[7] Yaffe et al[6] followed a total of 181,093 veterans without dementia for 7 years. Their baseline age was 68 years. Approximately 30% had PTSD. Veterans with PTSD were twice as likely to develop dementia.[6]

The authors of both articles considered variables that might influence the observed association of PTSD and dementia. These variables included head trauma and other physical injuries, substance abuse, and medical comorbidities. The association of PTSD and dementia persisted when these variables were controlled. In a published commentary, Pitman[8] emphasized that the observed PTSD-dementia link does not mean that PTSD causes dementia. There may be a third variable that explains the association. Lower IQ test results at enlistment are one known risk factor for PTSD. Lower IQ in adolescents is also a risk factor for the later development of dementia. Pitman[8] notes that intelligence may at least partially explain the association.

The histories of our 2 patients contain intriguing details. Both veterans developed dementia before age 65 years, younger than the veteran populations studied. Both veterans had Parkinson-like motor symptoms, including bradykinesia and frequent falls. Mr A was diagnosed with Lewy body disease, which can present with Parkinson-like findings, including bradykinesia and falls. These dementia patients may have an earlier onset of their disease, averaging 50 years old. They may also have mixed dementia with both Alzheimer's and Lewy body features. Both men had years of treatment for PTSD, which may have included antipsychotic drugs or selective serotonin reuptake inhibitors. Both medication types have been found to result in extrapyramidal, Parkinson-like movement disorders.

These clinical features raise new questions. Are early onset dementia and Parkinson-like features more common among veterans with a history of taking medications to treat PTSD? Are the clinical features associated with PTSD or are they related to the medications used to treat PTSD? The increase in PTSD among veterans, as well as the associated risk of early dementia, challenges our health care system now and will continue to affect the delivery of health care in the future. Research efforts that focus on PTSD prevention and treatment, as well as long-term studies of treated veterans, will hopefully guide care for this tragic combination of disorders.

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