REVIEW

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Diagnosing and managing posttraumatic stress disorder

ABSTRACT

In addition to being associated with combat, posttraumatic stress disorder (PTSD) also occurs in civilians exposed to severe trauma or serious illness. Manifestations of PTSD are varied and commonly include nonspecific physical symptoms, sleep disturbances, and psychological problems. Treatment with selective serotonin reuptake inhibitors (SSRIs) is usually effective.

KEY POINTS

PTSD may develop in patients who experience a serious medical problem, such as a heart attack, organ transplant, human immunodeficiency virus infection, or cancer.

PTSD is common and should be considered as an underlying problem in patients with disorders characterized by chronic, nonspecific symptoms, such as irritable bowel syndrome, chronic pelvic pain, fibromyalgia, and chronic fatigue syndrome.

SSRIs are usually effective in treating PTSD. Other medications can be used to help control specific symptoms.

Psychotherapy can also be helpful. Psychiatric consultation is recommended.

SINCE THE VIETNAM WAR, posttraumatic stress disorder (PTSD) has become one of the most discussed psychiatric conditions in the United States. The recent spate of natural disasters worldwide as well as the Iraq war have brought PTSD to the forefront again. Trauma is an integral part of human existence, but only recently have the physical and psychological aspects of exposure to different traumatic conditions been scientifically studied.

Untreated, PTSD can result in severe physical, psychological, and social impairment. Early diagnosis and prompt treatment can reduce the intensity and length of traumatic sequelae and improve quality of life.

This article provides an overview of diagnosing and treating PTSD. Most patients with PTSD first seek help from their primary care physician, whose role in its early diagnosis and appropriate management is critical.[1]

PTSD IS COMMON

About 5% of men and 10% of women experience PTSD at some point in their lives,[2] and the prevalence at any one time is 5% to 6%.[3] Between 15% and 30% of people exposed to traumatic events develop the full set of criteria for PTSD.[4]

Although PTSD can develop in anyone, certain factors increase its likelihood, including trauma that is more severe, longer in duration, or unexpected. Previous trauma appears to increase the risk of PTSD after subsequent traumatic events.[5] Other risk factors include mental illness that existed before the trauma, dysfunctional coping, and an attribution style in which, eg, the person feels he or she is likely to be a victim and can do little to prevent it.

TABLE 1

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PTSD may follow serious medical problems

Many patients with certain medical conditions feel helpless, horrified, and extremely fearful, and this observation has led researchers to investigate whether disease or injury can cause PTSD.[6–9]

Mundy and Baum[7] studied psychological trauma and PTSD in patients with acute myocardial infarction, a heart transplant, human immunodeficiency virus infection, or cancer, and found that PTSD can result from medical stressors. However, PTSD is less common after medical trauma than after exposure to events that we traditionally think of as traumatic, such as a shooting or a tornado.

Others found the rate of PTSD to be between 8% and 16% after an acute myocardial infarction,[8–10] 11% 1 year after a heart transplant,[11] and 30% in men with human immunodeficiency virus infection.[12]

Some of the differences in rates cited here may be due to different methods of assessment

or limitations in evaluating distress. In addition, physically ill patients may differ in how they transform symptoms or develop effective coping for chronic rather than acute stress. Nevertheless, PTSD seems to be common after serious illness.

CHANGES IN THE BRAIN ARE EVIDENT

Enormous progress has been made over the past decade in understanding how psychological or physical trauma affects the structure and functions of the brain. Although many findings are nonspecific and can be found in other neuropsychiatric conditions, they shed some light on our understanding of PTSD.

Studies using positron emission tomography have consistently found changes in the structure and function of the hippocampus (an area of the brain involved in learning and memory) and the medial prefrontal cortex in patients with PTSD.[13] Neuroimaging studies show that PTSD is associated with a smaller hippocampus.[14–16] Survivors of trauma with PTSD have been found to have a smaller volume of gray matter in the left anterior cingulate cortex (as measured by voxel-based morphometry) compared with trauma survivors without PTSD, and the less gray matter, the more severe the PTSD.[17] Children who were exposed to severe stress subsequently showed smaller midportions of the corpus callosum and attenuated development of the left neocortex, hippocampus, and amygdala.[18]

Other findings in patients with PTSD include reduced central norepinephrine levels with down-regulation of central adrenergic receptors[19] and dysfunction of the hypothalamic-pituitary-adrenal axis.[20]

MANIFESTATIONS OF PTSD ARE VARIED

PTSD has been described as "the complex somatic, cognitive, affective, and behavioral effects of psychological trauma."[21]

Although increasingly recognized, PTSD can be difficult to diagnose because of its varied symptoms. Patients with PTSD commonly have somatic complaints,[22] and often, only isolated physical symptoms are treated. Key to diagnosing PTSD is a high index of suspicion in any patient exposed to traumatic events.

TABLE 1 provides the criteria from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*.[23]

Patients with PTSD typically present with various nonspecific somatic complaints such as chronic and unexplained pain, nausea, tremors, palpitations, or mood swings.[5] Sleep-related problems are common and include insomnia, periodic leg movements during sleep, confusional arousals, and sleepwalking.[24]

Irwin et al[25] found that 36% of 50 patients with irritable bowel syndrome had PTSD. Patients presenting with chronic pelvic pain also have a high rate of trauma and PTSD (about 40%).[26,27]

PTSD often accompanies major depressive disorder, anxiety disorders, and substance abuse. Adults who had PTSD in childhood are 2 to 12 times more likely to smoke, abuse alcohol or drugs, develop depression, or attempt suicide.[28]

Patients with PTSD are more likely to have chronic conditions such as asthma, peptic ulcer disease, and hypertension, and they frequently have poorer self-care (eg, they are less compliant with medications and appointments), which makes these conditions worse.

Patients with fibromyalgia and chronic fatigue syndrome also report nonspecific symptoms. PTSD should be considered in patients with these conditions if a history of trauma or serious illness is also present.

Patients with PTSD typically present with nonspecific somatic complaints

MANAGEMENT: PHARMACOLOGIC AND PSYCHOLOGICAL

PTSD is best managed with a combination of drug therapy and psychosocial approaches.

Drug therapy

Selective serotonin reuptake inhibitors (SSRIs) reduce multiple symptoms of PTSD and are the preferred medications for it. They are ideal in primary care settings because of their ease of dosing, safety profile, and few side effects.

Several SSRIs have been found effective for PTSD in double-blind, placebo-controlled, randomized clinical trials. Fluoxetine was superior to placebo in decreasing PTSD symptoms at a mean dose of 40 mg per day

over 5 weeks[29] and at a mean dose of 30 mg per day over 12 weeks.[30] Sertraline (50–200 mg/day) was found effective in treating moderate to severe PTSD. For patients who responded to sertraline after 12 weeks, continued use led to a lower relapse rate at 6 months compared with placebo.[31] Paroxetine (20 and 40 mg/day) was also found effective.[32]

After being diagnosed, patients should be started on a low dose of an SSRI, which should be increased gradually as needed. Full benefit may not be realized until 4 to 6 weeks after the medication is started. Adjunctive therapy should be used if symptoms do not improve after the maximum dosage of SSRIs is reached.

Other antidepressants. The tricyclic antidepressants desipramine, imipramine, and amitriptyline have all been studied. Desipramine was not effective.[33] Although imipramine and amitriptyline offered some benefit,[34,35] they are rarely used, in view of their side effects and serious toxicity in overdose.

Phenelzine, an irreversible monoamine oxidase inhibitor, was found to be superior to imipramine in one study. It is very rarely prescribed because of the danger of a hypertensive crisis if combined with other commonly used drugs or tyramine-containing foods.[35]

PTSD is best managed with a combination of drug therapy and psychosocial approaches

Benzodiazepines lack evidence that they are effective in treating PTSD. Alprazolam, in a 5-week crossover trial, did not reduce PTSD symptoms.[36] Other benzodiazepines have not been studied.

If prescribed, benzodiazepines should be combined with more effective treatments. Because patients with PTSD are at increased risk of substance abuse and dependency, benzodiazepines should be prescribed only after careful consideration, and they should be tapered off as quickly as possible.

Mood stabilizers. Lamotrigine, in a double-blind, placebo-controlled trial, was effective in improving re-experiencing, avoidance, and numbing symptoms.[37] Although several reports describe treating PTSD effectively with carbamazepine,[38] oxcarbazepine,[39] valproic acid,[40] lithium,[41] and gabapentin,[42,43] few controlled studies have been done.

Atypical antipsychotic drugs are widely used, mainly as adjuncts, for treating PTSD. Olanzapine combined with SSRIs improves sleep, reduces nightmares, and improves other symptom clusters.[44–46] Risperidone, used as an adjunctive medication for chronic combat-related PTSD, improves symptoms of arousal, as well as scores on Hamilton anxiety and depression scales.[47] Quetiapine, used as an adjunctive treatment, helps insomnia, anxiety, and hyperarousal.[48]

Other medications. Propranolol (120–160 mg/day) was shown to be of some use in a study in chronically ill veterans.[49,50] Clonidine (an alpha-2 agonist) suppresses activity in the locus ceruleus and was found to be useful in combat veterans. However, these medications can at best be good adjuncts to definitive pharmacotherapy and psychotherapy.

How long drug therapy should be continued is unknown. The decision to stop drug treatment should be governed by the degree of symptom remission, cost of relapse, progress made in psychotherapy, side effects, and freedom from ongoing stressors. Lifetime pharmacotherapy may be required: some combat veterans with chronic PTSD had relapsing symptoms 20 to 40 years after combat following attempts to withdraw or reduce the dosage of medication.[51]

PSYCHOTHERAPY

Various forms of psychotherapy are effective for managing PTSD. Cognitive behavioral therapy was found effective in randomized controlled trials.[52] Other forms of therapy, including group therapy and supportive therapy, are also helpful.

Immediate debriefing, performed right after a trauma in the hopes of decreasing its impact, is controversial. Recent research indicates that immediate debriefing may cause harm or at least be less effective than it was earlier believed to be.[53–55] It is best to refer patients who have just experienced trauma to therapists with expertise in PTSD.

Because PTSD is a complex condition with many psychological complications, primary care providers should consider referring all patients to a psychiatrist for consultation to develop a comprehensive management plan and to screen for and treat any comorbid conditions such as depression and anxiety.

Patients with suicidal ideation, substance abuse, or premorbid personality disorders, should

have ongoing treatment with a psychiatrist.

Primary care physicians should continue their involvement: a good doctor-patient relationship helps in uncovering many of the symptoms of PTSD in their early stages and improves treatment compliance.

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