

# Concurrent Psychiatric Illness in Inpatients with Post-traumatic Stress Disorder

Michael R. Hrywniak, MD\*

Richard B. Rosse, MD†

The discharge diagnoses of 374 inpatients on a VA Medical Center general psychiatry ward were reviewed. Sixty-three (16.8%) were diagnosed as having posttraumatic stress disorder (PTSD). The mean number of diagnoses was 2.9 for the PTSD group, compared with 1.4 for the non-PTSD patients. The most common comorbid conditions in the PTSD patients were alcohol abuse, unipolar major depression, substance abuse, atypical psychosis, and intermittent explosive disorder. All of these disorders except substance abuse occurred significantly more frequently in the PTSD patients than in those free of PTSD. Schizophrenia and organic mental disorders occurred significantly more frequently in the non-PTSD group. These results suggest a need for thorough psychiatric evaluation in patients with PTSD and the need to evaluate for PTSD when combat veterans present with one of several psychiatric syndromes mentioned above.

## Introduction

Post-traumatic stress disorder (PTSD), now a well-established diagnostic entity, was introduced into the American psychiatric nomenclature with the publication of the DSM-III in 1980. The concept of the disorder, however, is considerably older, and its history is closely tied to the history of warfare. The first appearance in the literature of a description of anxiety symptoms in response to a significant stressor was in 1871 in an article by DaCosta.<sup>1</sup> A syndrome of chest pains, palpitations, and dizziness in a Civil War soldier was referred to as the "irritable heart" syndrome. Since then, the stress response of soldiers in combat and of victims in various traumatic circumstances has been called, at different times, shell shock, battle fatigue, combat neurosis, traumatic war neurosis, post-Vietnam syndrome, post-disaster syndrome, and gross stress reaction. Of these sometimes seemingly disparate diagnostic entities, a single classical syndrome of anxiety, recurrent nightmares, insomnia, numbing of responsiveness, poor concentration, irritability, and autonomic hypersensitivity is represented by the DSM-III diagnosis of PTSD.<sup>1</sup>

According to the DSM-III formulation, there are a number of symptoms and behavioral abnormalities associated with, and complicating, PTSD. These include depression, anxiety, substance abuse, impulsivity, suicidal actions, occupational impairment, and interference with interpersonal relationships. A number of investigators have attempted to determine the frequency of the occurrence of such symptoms in patients with PTSD and, indeed, they have shown that PTSD is highly asso-

ciated with concurrent psychiatric diagnoses.<sup>2-5</sup> The most common disorders identified as overlapping with PTSD are depression, anxiety, and substance abuse (primarily alcohol abuse). Boman<sup>6</sup> has questioned whether there is a specific association between PTSD and these diagnostic categories or whether all that was found were the anticipated psychiatric disorders of a demographically homogeneous group (i.e., young adult males from predominantly lower socioeconomic backgrounds seeking psychiatric treatment). In two controlled studies,<sup>6,7</sup> he showed that symptoms thought to be associated with the diagnosis of PTSD were found with similar frequency in Vietnam veterans with PTSD and in those free of the disorder. He cautioned that a strong specific association between PTSD and violence, impulsivity, alcoholism, drug abuse, self-destructive behavior, anxiety, and depression has yet to be demonstrated.

This study will attempt to further clarify the relationship between PTSD and concurrent psychiatric illness. The purpose is to determine the most common concurrent psychiatric diagnoses in a group of Vietnam veterans with PTSD and to compare the frequency of occurrence of specific diagnoses in veterans with PTSD and in veterans without the disorder.

## Method

Discharge diagnoses of 375 VA Medical Center patients on a general psychiatric ward for an 18-month period from August 1986 through January 1988 were reviewed. Each patient was admitted to the Georgetown University psychiatric teaching unit at the Washington VA Medical Center. The ward was staffed by three second-year psychiatry residents, a fourth-year chief resident, and an attending physician. All of the patients were interviewed at least once and, usually, on an ongoing basis by a second-year resident. There was ongoing supervision of the residents by the ward attending and chief resident.

All diagnoses were made using DSM-III or DSM-III-R criteria. They were made on the basis of the initial diagnostic interview, ongoing observation ranging from one day to several months, and, when appropriate, by review of hospital records, collaborative visits with family members, consultation with previous treating physicians, and assessment with psychological testing. No distinction was made as to "primary diagnosis;" that is, of the veterans with PTSD, PTSD was not necessarily the diagnosis for which they were admitted.

## Results

During the 18-month period, 63 (16.8%) of the patients had a diagnosis of PTSD. The age range at the time of admission was 34 to 60 years with a mean of 40.2 years. Only two of the patients were over 44 years of age. The remainder were Viet-

\* Formerly Chief Resident at the Washington VA Medical Center and Georgetown University Medical Center. Currently Consultation/Liaison Fellow at the Fairfax Hospital, Falls Church, Virginia.

† Assistant Professor of Psychiatry, Washington VA Medical Center and Georgetown University Medical Center, Washington, DC.

Reprints: Richard B. Rosse, M.D., Psychiatry Service, Room 3A154, Washington VA Medical Center, 50 Irving Street N.W., Washington, DC 20422.

nam era veterans. This group was compared with the remaining 311 (83.2%) veterans who did not have PTSD. The age range of the non-PTSD group was 20 to 80 years with a mean of 41.6 years.

The mean number of diagnoses for patients in the non-PTSD group was 1.4. For the PTSD group, there was a mean of 2.9 diagnoses per patient ( $p < 0.001$ ). Only one patient (1.6%) had a sole diagnosis of PTSD. Fifteen (23.8%) had one additional diagnosis, 26 (41.3%) had two additional diagnoses, and 21 (33.3%) had three additional diagnoses. The frequencies of various diagnoses in the two groups are summarized in Table 1. Concurrent diagnoses most frequently associated with PTSD were alcohol abuse (42.9%), substance abuse and unipolar depression (36.5% each), intermittent explosive disorder and atypical psychosis (19% each), schizophrenia (15.9%), and personality disorders (11.1%). Other diagnoses, including bipolar disorder, anxiety and panic disorders, organic mental disorders, and schizoaffective disorder occurred in only one or two cases each (<3.2%). The disorders found in the non-PTSD group, in order of decreasing frequency, were schizophrenia (33.1%), unipolar depression (23.2%), alcohol abuse (21.5%), organic mental disorders (including delirium, dementia, and organic affective, delusional, and personality disorders, 11.6%), bipolar disorder (9.3%), personality disorders (8.0%), and dysthymia (3.2%). Other diagnoses, including atypical psychosis, intermittent explosive disorder, panic and anxiety disorders, paranoid disorder, pathological gambling, pedophilia, and iatrogenic benzodiazepine dependence, occurred in six or fewer patients each (<1.9%).

The statistical significance of the difference in frequency of each diagnosis in the two groups was tested by chi-square analysis. The disorders that occurred significantly more frequently in the PTSD group were unipolar depression ( $p < 0.05$ ), alcohol abuse ( $p < 0.01$ ), atypical psychosis ( $p < 0.001$ ), and intermittent explosive disorder ( $p < 0.001$ ). Disorders occurring significantly more frequently in the non-PTSD group were

schizophrenia ( $p < 0.01$ ) and organic mental disorders ( $p < 0.05$ ).

## Discussion

The findings of this study of comorbidity of PTSD and other psychiatric syndromes are consistent with the findings of a number of other studies.<sup>2-7</sup> Specifically, there was a high rate of alcohol abuse, substance abuse, and depression among the patients with PTSD. However, unlike other studies, these data also show a fairly high rate of atypical psychosis and intermittent explosive disorder. Other major psychiatric disorders such as schizophrenia, schizoaffective disorder, bipolar disorder, and organic mental disorders were more common in the non-PTSD group. There was a significantly greater mean number of diagnoses per patient in the PTSD group compared with the non-PTSD group, making the former group more diagnostically complex.

In this study there is a conspicuous lack of anxiety disorder diagnoses in either group. This finding is not consistent with the findings of a number of studies<sup>3,4,8</sup> that reported a relatively high prevalence of anxiety disorders in patients with PTSD. One possibility is that the anxiety disorders were masked by the alcohol abuse, substance abuse, and depressive disorders. This is perhaps more likely the case in the PTSD than in the non-PTSD group, the former having a higher rate of alcohol abuse and major depression. Another possibility is that patients with anxiety disorders not complicated by other pathology were less likely to require hospitalization. In our study, this was true for both the PTSD group and the non-PTSD group.

Another interesting finding is the statistically significant greater frequency of schizophrenia and organic mental disorders in the non-PTSD group and the significantly greater frequency of atypical psychosis in the PTSD group. It may be that PTSD is overshadowed by severe schizophrenic symptoms resulting in an underrepresentation of schizophrenia in the PTSD group (i.e., the diagnosis of PTSD may be overlooked more frequently in the face of severe psychotic symptoms). This may also apply to the finding of a greater frequency of organic mental disorders in the non-PTSD group, in whom severe organic impairment can overshadow PTSD symptoms. However, organic mental disorder is more common in older individuals, and our non-PTSD group had a wider age range, including a greater number of older patients. A possible reason why atypical psychosis was more commonly seen in the PTSD group is that our current concept of PTSD may be too restrictive. In some patients, there may be a form of the disorder that is associated with longer-duration psychotic features and not just short-lived flashbacks or hallucinations; some of these patients might best be given an atypical psychosis designation.

The association of PTSD with intermittent explosive disorder may be real or spurious. In some patients with PTSD, there may be a genuine association of the disorder with intermittent explosiveness. Possible reasons for a spurious association include: 1) a higher rate of substance and alcohol abuse in the PTSD group with the explosive outbursts mistakenly attributed to an intermittent explosive disorder rather than to intoxication, and 2) a higher undetected rate of depression, with the irritability and lower threshold for violence that can be seen in

TABLE 1  
FREQUENCY OF PSYCHIATRIC DIAGNOSES IN PTSD AND NON-PTSD GROUPS

Diagnosis	Veterans without PTSD (N = 311)	Veterans with PTSD (N = 63)	p Value
Major depression	72 (23.2) <sup>a</sup>	23 (36.5)	<0.05
Bipolar disorder	29 (9.3)	2 (3.2)	NS
Alcohol abuse/dependence	67 (27.5)	24 (42.9)	<0.01
Substance abuse/dependence	88 (28.3)	23 (36.5)	NS
Schizophrenia	103 (33.1)	10 (15.9)	<0.01
Schizoaffective disorder	24 (7.7)	1 (1.6)	NS
Atypical psychosis	4 (1.3)	12 (19.0)	<0.001
Intermittent explosive disorder	3 (0.9)	12 (19.0)	<0.001
Organic mental disorder	36 (11.6)	2 (3.2)	<0.05
Personality disorder	25 (8.0)	7 (11.1)	NS
Miscellaneous	23 (6.8)	1 (1.6)	NS

<sup>a</sup> Values in parentheses are percentages.

these patients, mistakenly attributed to an intermittent explosive disorder rather than to the mood disorder.

Unlike previous studies, this investigation compared the findings in a group of veterans with PTSD with those in a group of veterans free of the disorder. In the PTSD group, there was a significantly greater frequency of alcohol abuse, depression, atypical psychosis, and intermittent explosive disorder than in the non-PTSD group. It is likely that the differences between the two groups reflect some uniqueness of the PTSD group. These findings differ from Boman's findings in two controlled studies with Australian Vietnam veterans.<sup>6,7</sup> He did not find the PTSD group to be unique. Indeed, he found that symptoms purported to be associated with PTSD were found with similar frequency in Vietnam veterans with PTSD, without PTSD, and even in a group of military personnel with no overseas service.<sup>6,7</sup> However, a recent Centers for Disease Control study<sup>9</sup> showed significantly higher rates of depression, anxiety, and alcohol abuse or dependence in United States Vietnam veterans compared with non-Vietnam veterans. In addition, they reported that veterans who met criteria for PTSD were also more likely to meet Diagnostic Interview Schedule criteria for anxiety, depression, and alcohol abuse or dependence. Except for the higher rate of anxiety disorders in the Centers for Disease Control report, their overall findings are consistent with our findings for an inpatient group.

Our study was limited to an inpatient population, and because of this, a note of caution on generalizing our findings to outpatients with PTSD is in order. Although it has been shown that outpatients with PTSD are also at greater risk for comorbid conditions,<sup>4,10</sup> the inpatient group is likely to be different. According to the results of our study, it was unusual for PTSD alone to be a reason for hospitalization, as evidenced by the fact that only one of the patients in the study had a sole diagnosis of PTSD. Perhaps a greater degree of impairment, most likely enhanced by certain comorbid conditions, is necessary to require hospitalization.

The high prevalence of psychiatric disorders coexisting with

PTSD suggests the importance of thorough screening for comorbid conditions in patients with PTSD. Conversely, evidence of disorders such as depression, alcohol abuse, or atypical psychosis in a veteran with a history of combat experience should alert one to the possible concomitant diagnosis of PTSD. Clearly important is the need for further research to understand the relationship between PTSD and comorbid psychiatric conditions.

## References

1. Andreasen NC: Post-traumatic stress disorder, in *Comprehensive Textbook of Psychiatry*, 4th ed. Edited by Kaplan HI, Sadock BJ. Baltimore, Williams & Wilkins, 1985
2. Atkinson RM, Sparr LF, Sheff AG, et al: Diagnosis of post-traumatic stress disorder in Vietnam Veterans: preliminary findings. *Am J Psychiatry* 141:694-696, 1984
3. Davidson J, Swartz M, Storck M, et al: A diagnostic and family study of post-traumatic stress disorder. *Am J Psychiatry* 142:90-93, 1985
4. Escobar JI, Randolph ET, Puente G, et al: Post-traumatic stress disorder in Hispanic Vietnam veterans: clinical phenomenology and sociocultural characteristics. *J Nerv Ment Dis* 171:585-596, 1983
5. Sierles FS, Chen J-J, McFarland RE, et al: Post-traumatic stress disorder and concurrent psychiatric illness: a preliminary report. *Am J Psychiatry* 140:1177-1179, 1983
6. Boman B: Combat stress, post-traumatic stress disorder, and associated psychiatric disturbance. *Psychosomatics* 27:567-573, 1986
7. Boman B: Post-traumatic stress disorder (traumatic war neurosis) and concurrent psychiatric illness among Australian Vietnam veterans. A controlled study. *J R Med Corps* 131:128-131, 1985
8. McFarlane AC: The phenomenology of post-traumatic stress disorders following a natural disaster. *J Nerv Ment Dis* 176:22-29, 1988
9. Centers for Disease Control Vietnam Experience Study: Health status of Vietnam veterans: I. Psychosocial characteristics. *JAMA* 259:2701-2702, 1988
10. Helzer JE, Robins LN, McEvoy E: Post-traumatic stress disorder in the general population: findings of the epidemiologic catchment area survey. *N Engl J Med* 317:1630-1634, 1987

MILITARY MEDICINE, 154, 8:401, 1989

## Waiting Time in Outpatient Care: A Study of Divergent Perspectives

*Llewellyn E. Piper, MHA, MS, MA, MACPE*

This article documents a survey of waiting time in the outpatient setting. The study was conducted in March 1988 at Gorgas Army Community Hospital, located in the old Panama Canal Zone in the Republic of Panama. Two groups were surveyed. Patients were

group one ( $M = 450$ ) and physicians were group two ( $N = 55$ ). Of four factors questioned as being the biggest problem in outpatient clinics, group one had a response rate of 83.3% for waiting time, compared with group two's 9.1%. Chi-square analysis was used to test the independence of the two groups at the 1% level of significance. The study reveals that there is a significant difference between patients' and physicians' views of waiting time. This finding provides an enlightening perspective in an effort to under-

Chief, Clinical Support Division, Gorgas Army Community Hospital, Republic of Panama, APO Miami 34004-5000.