



## Post-traumatic stress disorder psychotic subtype or comorbid psychotic disorder and evaluation of military service ability

### Podtip post-traumatskog stresnog poremećaja ili komorbidni psihotični poremećaj i procena sposobnosti za vojnu službu

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#### Abstract

**Introduction.** Recent studies have shown that diagnostic differences in the opinion whether some case is a psychotic subtype of posttraumatic stress disorder (PTSD) or a comorbid psychotic disorder still exist. In a case of mental disorders, a specific nature of military environment requires a detailed evaluation of abilities for military service (MS).

**Case report.** A 34-year old male noncommissioned officer (NCO) showed symptomatology of PTSD (according to the Diagnostic and Statistical Manual of Mental Disorders – DSM-IV) after experiencing a traumatic event in peacetime conditions. In addition to experiencing trauma as an adult, the patient was also exposed to early-age trauma, when his father committed suicide. After a pharmacotherapy and cognitive behavioral therapy treatment, he was remitted and returned to his duty. Triggered by new stress caused by unfavorable environmental factors (occupational environment), psychotic phenomenology appeared. After two years of psychiatric treatment, patient was evaluated unfit for MS.

**Conclusion.** Early-age trauma and/or PTSD are predispositions for a comorbid psychotic disorder, while the diagnostic entity of psychotic subtype of PTSD requires further research. Evaluation of MS abilities in patients with psychotic disorder based on our clinical experience, will require a psychiatric treatment for at least two years, which is in accordance with a research conducted in the British Army.

#### Key words:

stress disorders, post-traumatic; psychotic disorders; comorbidity; military personnel; drug therapy; recurrence; professional competence.

#### Apstrakt

**Uvod.** Dosadašnja istraživanja ukazuju da još uvek postoje dijagnostička razmatranja da li je u pitanju psihotični podtip posttraumatskog stresnog poremećaja (PTSP) ili komorbidni psihotički poremećaj (KPP). Specifičnost vojne sredine, zahteva kod svakog mentalnog poremećaja brižljivu evaluaciju kapaciteta za obavljanje vojne službe (VS). **Prikaz bolesnika.** Prikazan je podoficir, star 34 godine, koji je nakon mirnodopskog traumatskog događaja ispoljio simptomatologiju PTSP (prema Dijagnostičkom i statističkom priručniku za mentalne poremećaje – DSM IV). Pored traume u odraslom dobu, bolesnik je bio izložen i traumatizaciji u ranom detinjstvu, zbog suicida oca. Nakon tretmana lekovima i kognitivno-bihevioralnom psihoterapijom, postignuta je remisija i bolesnik je vraćen na svoju dužnost. Nakon novog stresa, uslovljenog nepovoljnim faktorima radne sredine, došlo je do ispoljavanja i psihotične fenomenologije. Nakon dvogodišnjeg psihijatrijskog lečenja, bolesnik je ocenjen “Nesposoban” za VS. **Zaključak.** Rana trauma i/ili PTSP su predisponirajući faktori za KPP, dok dijagnostički entitet – PTSP psihotični podtip, zahteva dalje istraživanje. Procena sposobnosti za VS kod bolesnika sa psihotičnim poremećajem, na osnovu našeg iskustva, nameće potrebu za, najmanje, dvogodišnjim psihijatrijskim lečenjem, što je u skladu sa istraživanjem sprovedenim u britanskoj armiji.

#### Ključne reči:

stresni poremećaji, posttraumatski, psihotički poremećaji; komorbiditet; vojni kolektiv; lečenje lekovima; recidiv; sposobnost, radna.

#### Introduction

Recent studies point to association between PTSD and psychotic disorders, but there are still diagnostic differences

in opinion whether this is a subtype of PTSD or a comorbid psychotic disorder<sup>1</sup>. Namely, noticeably higher PTSD rates were recorded in patients with psychotic disorder (30%) than in overall population (7.8%)<sup>2</sup>. On the other hand, about 10%

of PTSP patients also have a psychotic experience<sup>1</sup>, while other studies show significantly higher incidence (15–64%)<sup>3</sup>. The explanation for this may lie in the possible overlap of genes associated with PTSD, and genes which carry an increased risk of developing psychotic disorders, schizophrenia in particular<sup>4,5</sup>.

Comorbidity of PTSD and psychotic disorders is best researched in war veterans. Evidence gained in the war years on the territory of former Yugoslavia showed that as many as 40% of war veterans reported some kind of psychotic symptoms, mainly delusions and hallucinations. Most of them didn't experience any bizarre hallucinations, only the hallucinations related to the traumatic event itself<sup>6</sup>. Similar results regarding war veterans with psychotic symptoms are found in studies conducted in America. There was, also, a high correlation between the intensity of PTSD and psychotic symptoms<sup>7,8</sup>.

Having in mind the biopsychosocial approach, it is evident that some personality traits (immaturity, neuroticism, ambivalence, insecurity, passive-dependent traits), as well as unfavorable circumstances of social milieu of patient's life and work (lack of support, lack of understanding, mockery, added pressures, subsequent imposition of a sense of responsibility and guilty conscience) are factors which could predispose development and persistence of symptoms of PTSD and comorbid disorders<sup>9</sup>.

Responsibility of military psychiatrists in the process of evaluation of capability for military service (MS) is significant because of the specific nature of military occupation and the military environment in which a patient should be reintegrated. An officer is an educator, teacher and instructor of his younger colleagues and soldiers and his authority needs to be based on expert knowledge, human capacity and inclination towards correct leadership and command. Also, the officer needs to be capable of working as a team player and carrying out guard service duties (one of the most demanding combat tasks in peacetime). A specific nature of military environment which includes military discipline, particular language used in commands, specific symbolism, emphasized ceremonialism, specific occupational and private environment, specific evaluation and assessment criteria, life and work within a group and separation from the family additionally complicate and create difficulties in evaluating professional MS working ability in active military personnel (AMP)<sup>10,11</sup>.

### Case report

We presented a 34-year old male patient, noncommissioned officer (squad commander, NCO) displaying symptomatology of PTSD and psychosis as well as the process of evaluation of professional military service (PMS).

The patient started with the psychiatric treatment three weeks after the traumatic experience. Trauma was acquired in peacetime conditions, namely the patient was in the civilian environment, in the evening, after his working hours, when he was physically assaulted by a group of strangers and was hit by a dull object in the head (he didn't lose consciousness, had nausea or vomited). Since the event, the patient

has been thinking about what could have happened, has been concerned for his life, has been having sleep disturbances (dreaming about the traumatic event), has been irritable, tense, prone to losing his temper quickly, having headaches, retreated from social situations, has been apathetic and avoided talking about the trauma or leaving the house without his spouse. Details from patient's personal anamnesis which were to be noted – he was married with two children, genetic burden was present, the father committed suicide when he was 10. Before the traumatic event, patient had never consulted a psychiatrist and was described as a responsible and diligent NCO in his unit and by the military psychologist (mandatory hetero-anamnestic data from the unit if an AMP).

Psychiatric treatment began, three weeks after the trauma, in outpatient conditions (Department for Mental Health of the Clinic for Psychiatry, Military Medical Academy). During the outpatient treatment, the following diagnostic procedures were performed: somatic and neurological examination, computed tomography (CT) scan of the head and electroencephalography (EEG) results were normal, the results of routine blood (a complete blood count – CBC, and biochemical serum analysis) and urine tests, as well as thyroid gland hormones concentration [thyroid-stimulating hormone (TSH), free thyroxine (FT4), triiodothyronine (T3), anti-thyroid peroxidase (anti-TPO) and anti-thyroglobulin (anti-Tg) antibodies], all were in the normal range. The patient received antidepressant (paroxetine 20 mg/day), anxiolytic (alprazolam 1 mg/day), hypnotic therapy (zolpidem 5 mg/day), and cognitive-behavioral therapy. After a few months of therapy, along with a one month long sick leave, the patient was remitted and returned to the unit as capable, but was exempt from his guard service duty and on-call MS in the following three-month period.

In the months to follow his remission, for a total duration of a year after the trauma, the patient was treated in outpatient conditions at the Department for Mental Health of the Clinic for Psychiatry, Military Medical Academy in Belgrade. He had check-ups every month, with gradual reduction of medication therapy, complete remission and the return to adequate behavior in professional, social and family environment.

Upon returning to the unit, the patient suffered a new stress. He was informally accused by his superior officers of being responsible of an event that happened in his absence and was verbally pressured into admitting guilt. One year after the first trauma (i.e. the physical assault), and shortly after the new stress, the patient was again experiencing intense traumatic experience ruminations, sleep deprivation and nightmares; he was irritable, retreated from social situations, avoided talking about the trauma, had difficulty being a functional family member and was professionally dysfunctional. During a premature and irregular check-up at the Department for Mental Health of the Clinic for Psychiatry, Military Medical Academy, PTSD relapse was evident, but with psychotic symptoms now present.

Delusions regarding relations and persecutions, as well as auditory hallucinations were present; elements of these psychotic symptoms were associated with traumatic experi-

ence. Due to the deterioration of his mental condition, one year after the first trauma, the patient was hospitalized for treatment. Cognitive model of PTSD in our patient is shown in Figure 1.

Hospital treatment, for the first time, included an atypical antipsychotic (risperidone 4 mg/day), and it was continued with an antidepressant (sertraline 50 mg/day), mood stabilizer (valproate 1,000 mg/day) and anxiolytic (alprazolam 1 mg/day), which reduced PTSD and psychotic symptomatology. In the period of hospitalization, the Mini-

International Neuropsychiatric Interview for diagnosing psychotic disorders was applied<sup>12</sup>; posttraumatic stress disorder was diagnosed by the use of the Clinician Administered PTSD Scale (CAPS)<sup>12</sup>, according to the Diagnostic and Statistical Manual of Mental Disorders – DSM-IV<sup>13, 14</sup>, and exposure to early-age trauma was diagnosed through the Childhood Trauma Questionnaire (short review of the six early traumatic experiences: death, divorce, violence, sexual abuse, illness or others)<sup>15</sup>.

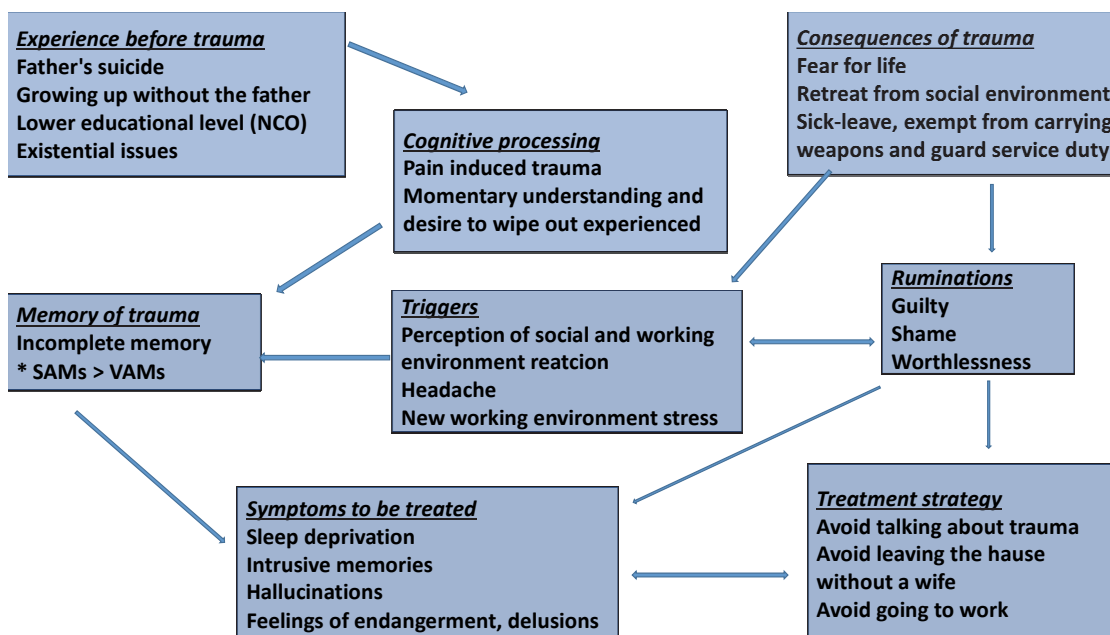


Fig. 1 – Cognitive model of presented post-traumatic stress disorder (PTSD), adapted by Ehlers and Clark, 2000.<sup>11</sup>

\*Memories are encoded in SAM (Situationally Accessible Memories) instead of VAM (Verbally Accessible Memories) system, which prevents cognitive assessment and eventual overcoming the traumatic experience. NCO – non-commissioned officer.

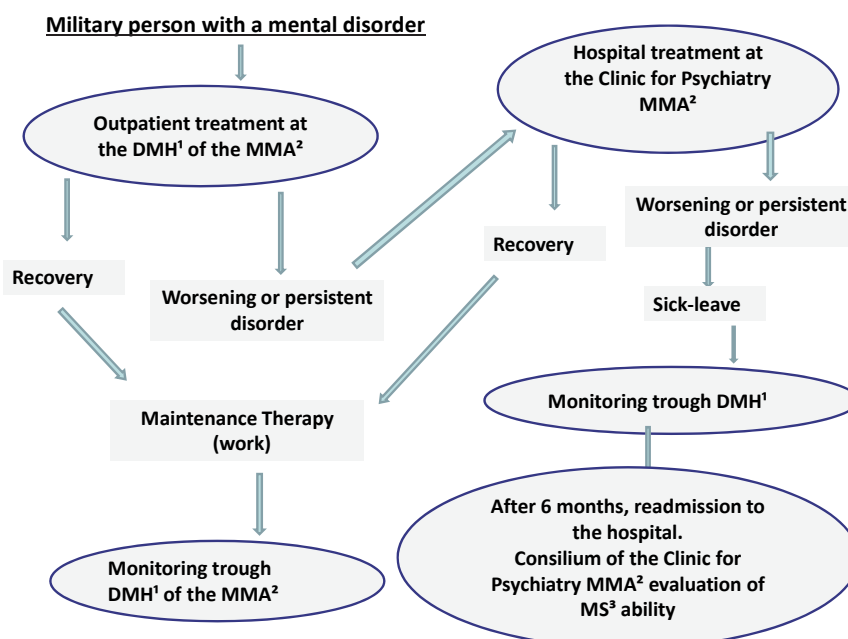


Fig. 2 – Evaluation of military service capabilities of a military person with a mental disorder. <sup>1</sup>DMH – Department of Mental Health; <sup>2</sup>MMA – Military Medical Academy; <sup>3</sup>MS – Military Service.

Having in mind that he is AMP, a specific nature of his occupation and the fact that he was receiving antipsychotic therapy treatment (risperidone 6 mg/day) the outpatient treatment was continued, and he was declared unable to work until further. The dose of antipsychotics was increased during outpatient treatment, given that after the end of the hospital treatment (risperidone 8 mg/day) and leaving the protected environment, delusions intensified. The patient was granted extended sick-leave with regular psychiatric check-ups. In the following period, the smallest provocative circumstance of family and social functioning (e.g. change in common patient activities, need for unplanned obligations, family events), especially those related to his occupational environment (military organization) resulted in a more intense feeling of endangerment and psychotic symptomatology. For the second time the patient was admitted for hospital treatment (2 years after the traumatic experience). The Consilium of the Clinic for Psychiatry evaluated him "unfit" for MS. MS evaluation procedure is presented in Figure 2. The following schematic representation is the result of a long-standing experience of psychiatrists of the Clinic for Psychiatry, Military Medical academy in Belgrade, which was acquired in working with AMP having mental disorders, which also includes assessing their abilities for MS.

### Discussion

Previous studies do not give clear instructions on diagnose and treatment of PTSD with psychotic symptoms. To the best of our knowledge, none of the previous cases in our community, comprised a precise evaluation of a patient with PTSD and psychotic symptoms and the MS ability evaluation.

This case showed a noncommissioned officer with PTSD phenomenology manifestations became acute after a traumatic experience.

A year after the trauma, as a result of unfortunate events (occupational environment), there was a relapse of PTSD, along with psychotic symptoms, and elements of these psychotic experiences were associated with traumatic experience. Psychotic symptoms could be manifested several months, sometimes even several years after the traumatic experience. Association between psychotic elements and trauma shows that traumatic experience and/or PTSD could be predispositions for psychotic disorder<sup>16</sup>. With regard to physical abuse, up to 53% of patients with PTSD experience positive psychotic symptoms<sup>17</sup>. Studies show that childhood trauma is a risk factor of psychosis and that psychotic patients with a cognitive model of childhood trauma are more inclined to substance abuse, PTSD, depression, anxiety<sup>18, 19</sup>, i.e., early-age trauma is a risk factor of psychosis and PTSD<sup>20</sup>. In our patient's case, early-age trauma (father's suicide) and PTSD could be predisposing factors for comorbid psychotic disorder.

Opinions regarding the existence of diagnostic entity of PTSD psychotic subtype are conflicting. While some authors support the idea of this PTSD subtype<sup>21, 22</sup>, others deny it<sup>23</sup>. It is adulthood trauma that could be responsible for the existence of this PTSD subtype<sup>21</sup>, and in this sense our patient

fits into this diagnostic entity. However, we still cannot say for sure this is a psychotic subtype of PTSD having in mind that further phenomenological, biological and epidemiological studies of this diagnostic entity are to be conducted.

Moreover, occurrence of psychotic symptoms in patients with PTSD requires the use of antipsychotics, which adapts the approach to PTSD treatment. Studies show that antipsychotic monotherapy lasting 4-6 weeks (fluphenazine, olanzapine, risperidone, quetiapine) diminishes symptoms in patients with PTSD who show resistance to a conventional antidepressant treatment<sup>24</sup>. The study of prescribing off-label antipsychotics to war veterans in USA showed that up to 41.8% antipsychotics were prescribed specifically to patients with PTSD with psychotic symptoms. Moreover, most often prescribed antipsychotics were quetiapine (42.9%), risperidone (21.2%) and olanzapine (7.2%)<sup>25</sup>, but the efficiency in the treatment showed also clozapine, amisulpride, fluphenazine<sup>24</sup>. A conventional treatment implies the use of selective serotonin reuptake inhibitors (SSRI) with 60% response rate. However, only 20-30% of patients achieve full remission<sup>25</sup>. The positive effects of antidepressant therapy are manifested in the reduction of sleep disturbances, intrusiveness and aggression, but they can also have positive effects on psychotic symptoms appearing alongside PTSD.

The patient presented in this report was treated by sertraline (a SSRI), risperidone (an atypical antipsychotic) and a mood stabilizer. Reduction of PTSD phenomenology and psychotic symptomatology was achieved, but with a regular use of antipsychotic and antidepressant therapy. Each attempt to withdraw antipsychotic therapy in the course of a two-year follow-up resulted in psychotic relapse.

On the other hand, there is the military's frontline psychiatry doctrine which is particularly applicable in the time of peace. This implies fast return of an AMP to the unit. This is why it is important to properly evaluate the risks of an AMP with a psychotic disorder and in a pharmacotherapy treatment returning to his unit. A study conducted in the British Army showed 48 cases of non-affective psychosis and 14 cases of schizophrenia among AMP in the course of 4 years. Only 8 patients, i.e., 16.7% were still in service after a two-year follow-up<sup>26</sup>. We must say that, to the best of our knowledge, this was the only research conducted in the army that showed a concise evaluation of MS ability among active military personnel with a psychotic disorder. Our patient's MS ability evaluation is in accordance with that of the British Army; it was carried out after a two-year follow-up. Having in mind patient's continuous antipsychotic therapy, his daily contact with weapons, as well as his guard service duty (potentially provocative emergency situations), he was estimated unfit for PMS.

### Conclusion

Early-age trauma and/or PTSD are predisposing factors for comorbid psychotic disorder, while diagnostic entity of psychotic subtype of PTSD requires further research. Presence of psychotic symptoms in patients with PTSD requires the combined use of antidepressants and antipsychotics

which adapts the approach to PTSD treatment. Evaluation of MS abilities in patients with psychotic disorder, based on our clinical experience, requires a psychiatric treatment for at least two years, which is in accordance with a research conducted in the British Army. Thereby, a specific nature of

MS organization, duties of the patient, his mental disorder and pharmacotherapy used, additionally complicate and cause difficulties for military psychiatrists in evaluating professional military service ability.

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