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RESEARCH ARTICLE

Post-Traumatic Stress Disorder; Beyond the War in the ICU

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Abstract

Introduction: Posttraumatic Stress Disorder (PTSD) is a disease triggered by a traumatic life event, to which the individual reacts with symptoms of fear, intrusive thought s and despair, persistently reliving the event over and over again through what is known as flashbacks.

Development: PTSD presents a multi-factorial etiology and depending on the severity will trigger the characteristic symptoms such as disorders of affect, anxiety and depression, this pathological entity is little known and much less widespread, so it is necessary to clarify everything related to this disorder and provide the tools to identify each of the symptoms that characterize it, and in this way, to establish an appropriate treatment based on the characteristics of each individual, taking into account, of course, the associated medical conditions that may arise. It is important to transfer this information to the attention in the Intensive Care Unit (ICU), given that it is in this area of a hospital where the signs and symptoms of PTSD are most frequently observed and in most cases not we managed to accurately identify the condition and, therefore, the medical comorbidity is exacerbated or even the same psychiatric condition prevents a favorable evolution of the medical condition.

Conclusion: The management of the clinical spectrum of PTSD in the ICU is necessary to detect it in time and channel the affected patient with the specialist in psychiatry, in order to reduce morbidity and prevent a worsening of mental health and sequel of the patient.

Keywords: Stress; trauma; anxiety; post-traumatic stress disorder; intensive care unit

Introduction

Post-Traumatic Stress Disorder (PTSD) is a psychiatric condition triggered by a traumatic life event, to which the individual reacts with symptoms of fear, intrusive thoughts and hopelessness, persistently reliving the event over and over again through what is known as flashbacks. In the Intensive Care Unit (ICU) multiple traumatic events, postoperative states, post traumatic due to high energy accidents, mechanical ventilation, invasion with devices that can be painful and uncomfortable such as nasogastric, urinary catheters, venous catheters that can trigger PTSD, therefore, it is our obligation to know about post-traumatic stress disorder to take into account risk factors, generate detection strategies and achieve a decrease in its incidence.

Trauma

Traumatic events occur frequently throughout our lives, according to the Royal Spanish Academy of Language "trauma derives from the Greek trauma that means wound, and refers to an emotional shock that produces lasting damage to the unconscious, an emotion or a strong and lasting negative impression or a lasting injury produced". Regarding the previous definition, we can take into account that the term "trauma" contains various meanings, for the general population. When talking about trauma, a psychological connotation comes to mind, product of some negative emotion or some stressful event, but the different connotations that this term presents must be properly distinguished: 1) it is damage caused by some event that can cause a physical alteration, 2) a psychological-psychiatric alteration that is caused by a stressful event, be it an accident, some loss, etc.

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There is an explicitly psychiatric definition of trauma, from the psychoanalytic point of view, which is summarized as follows: "trauma is a consequence of the events experienced in our environment and the way this is experienced by our psyche or mind, so to truly understand what it means, we must take into account what is happening in our environment and how it is interpreted by our minds" [1]. Mental or psychiatric disorder is also defined as an entity in which there is an alteration of the individual's mental functions as a consequence of associated medical illnesses and / or alterations of their environment, it is of acute or chronic evolution, depending of its characteristics and evolution on time.

Having established the general and psychiatric concept of trauma, we can accurately describe each of the characteristics that comprise Post Traumatic Stress Disorder and the importance of being able to identify said disorder in an Intensive Care Unit.

The ICU and psychiatric conditions

The Intensive Care Unit is the place where diseases are cared for, which due to their severity, require special care 24 hours a day, granted by health personnel trained to care for the multiple complications that may occur during the pathological course of the patient and in which, there is a precise knowledge of each of the altered functions present in the organism, therefore, there are few studies related to the care of psychiatric disorders in the ICU, because there is little knowledge of this conditions by the personnel who work there, as well as, there is a poor diagnosis and treatment focused on mental disorders.

Intensive care physicians lack specific biomarkers for the correct diagnosis of mental disorders, and they are not very familiar with their diagnosis and treatment, as reported by M. Badia, et al. The influence of mental illness on the prognosis of critical illness is unknown, as is the need for specific care from a psychiatric point of view [2].

In order to clearly and precisely establish the severity of the condition in question, as well as to identify the presence of any psychiatric illness, it is necessary to take into account demographic data, level of severity according to the APACHE II classification, Glasgow Coma Scale at admission of the patient, the procedures performed in the ICU (mechanical ventilation, use of norepinephrine, total parenteral nutrition and sedation), length of stay, risk of hospital mortality and infectious complications, to subsequently be able to identify the presence of any psychiatric illness that has appeared in the course of medical illness or even, is considered a complication of the condition treated in the ICU.

M. Badia et al. reported that 7.8% of the patients seen in the ICU had a psychiatric disorder, which was associated with more days of mechanical ventilation and pneumonia, therefore, it is concluded that psychiatric morbidity influences significantly the appearance of this complications in the ICU, and may be associated in the patient with mental illness, that generally presents malnutrition, poor dental hygiene, impaired neutrophil function, bacterial translocation or alveolar surfactant dysfunction, without finding a clear association between these findings and the primary mental disorder.

The appearance of post-traumatic stress disorder in users hospitalized for serious medical conditions is often frequent. It is important to accurately point out the characteristics of the disorder, established in the DSM-V [3]. It must be taken into account that the symptomatology of PTSD is very varied, and sometimes it depends on the context in which the individual develops, as well as on the psychological characteristics of each one.

Having a depressive episode or Depressive Disorder prior to hospitalization in the ICU, increases the probability of developing Post-Traumatic Stress Disorder twice, and even patients who spend more time in the ICU are more likely to experience symptoms, as reported by Bienvenu et al [4]. Just as it is common for survivors of serious diseases to develop PTSD during their stay in the ICU or weeks after their discharge from hospital, 35% of patients developed PTSD during the first 3 months, finding that half of them were under psychiatric treatment, correlating this information with the criteria of the DSM-V, in which the temporality of one month for the occurrence of symptoms after the traumatic event is established as one of the main criteria, it is observed that in the present studies the presentation of the symptoms took even up to three months after the event, so the longer it takes after the event, the more chronic the symptoms will be and it will even be more difficult to identify them.

Some research has reported the association of certain factors with the development of PTSD in the ICU, both risk factors and protective factors; Risk factors for developing PTSD symptoms are: a) depression prior to medical illness, b) length of stay in the ICU, c) number of days in the ICU with sepsis and high doses of opioids in the ICU. Protective factors are the proportion of days in the ICU with the use of opiates and corticosteroids, both types of medications interpose in ways of reducing pain, so that pain itself and its management play a very important role in the appearance of PTSD, however corticosteroids are regularly contraindicated in mood disorders such as depression and anxiety, since they interfere with serotonin metabolism.

The symptoms of Post-Traumatic Stress Disorder can become very common in the intensive care unit, and may appear at any time during the hospital stay as well as after discharge and have a long duration, the appearance of symptoms can be up to 3 months after the stay in the ICU, and the symptoms will vary according to the condition which was associated and its severity, but above all, to the psychological capacity of each individual to be able to face each of the stressful situations that they could deal . It should be taken into account that human response to severe events is not always PTSD, so it is important to establish the type of traumatic event and its severity, since it is more common to find symptoms of depression, anxiety and / or consumption of substances, it is also very important to detect the presence or absence of an adverse environment, with multiple risk factors, family dynamics or with the individual's

support group and / or previous depressive episodes, as well as the cognitive and psychological capacity of the individual [5].

During the stay in the ICU, given the severity of the conditions and the therapeutic dynamics, the health personnel involved have few tools to identify the condition as such in the first instance, so PTSD may go unnoticed most of the times, combined with the mix of some drugs and the stress that individuals face. After their discharge, more than 50% of ICU users, present symptoms compatible with PTSD, which is exacerbated and tends to chronicity, promoting the appearance of other psychiatric disorders such as anxiety, harmful substance use.

Among the affective disorders prior to the patient's admission to the ICU, depression comes first and anxiety second, occupying an approximate prevalence of 55% in hospitalized in intensive care units, taking into account that the medications used within therapy, combined with hospital stress, they seem to cause greater long-term psychiatric problems and the appearance of PTSD symptoms [6].

A psychiatric evaluation by qualified medical personnel is primordial in order to identify affective symptoms with which you may be attending after discharge from the ICU, if necessary on more than one occasion, it is important to have a medical interview and measure scales such as: Hamilton scale for Depression, Hamilton scale for Anxiety and Becks depression scale, among others, in order to identify symptoms associated with these conditions without leaving aside clinical observation, which provides most of the information to be able to establish an adequate psychiatric diagnosis. The environmental factors surrounding the patient must be taken into account, such as adverse events prior to hospitalization, interpersonal and / or family conflicts and medical comorbidities, emphasis should be placed on maintaining a reliable, safe and validating environment to obtain information about the suffering, this even from the same personnel who work in the unit, whether or not they are specialized mental health personnel.

On some occasions, during hospitalization, the patient may report vague symptoms of an affective disorder for which he is studying, and by not paying adequate attention to these symptoms due to the fact that they are not considered important and assume that they do not endanger the life of Immediately, these can become exacerbated and become acute at a certain time, mainly ideas of death and suicidal ideation, which is why many times PTSD can be confused with depression. Another identifiable disorder is the so-called acute stress disorder (ASD), which appears even in the days after the traumatic event and may be present at the time of interviewing the patient, which can later evolve into post-traumatic stress disorder.

Certain individuals have hyperreactivity to stressful or traumatic events, this depends on their temperament, their life history and other environmental factors in which they are immersed, which could be confused with PTSD, however, it is an Autistic Specrtum Disorder (ASD); Conversely, other individuals who tend to contain their emotions, either because of a lack of empathy with others, or for not wanting to make their feelings known, including their family members, may mask PTSD.

Post-traumatic stress disorder

Posttraumatic stress disorder (PTSD) has been described as "the complex somatic, cognitive, affective, and behavioral effects of psychological trauma" [7]. PTSD is characterized by intrusive thoughts, nightmares and flashbacks of past traumatic events, avoidance of reminders of trauma, hypervigilance, and sleep disturbance, all of which lead to considerable social, occupational, and interpersonal dysfunction.

The main symptom that occurs in people with PTSD is the reexperiencing of the traumatic event through intrusive memories or nightmares, or in the form of flashbacks, suddenly and without them being able to avoid it. Likewise, there is also a need to avoid memories, conversations, activities, people or places that are associated with the traumatic event, with emotional anesthesia and hyperactivation or anxiety, characterized as insomnia, irritability, lack of concentration and excessive neurovegetative response.

According to the definition of symptoms, individuals who are in an intensive care unit, most of the time are under sedation, but this does not prevent their brain from being active. During a coma, the brain stem is still active and the basic functions that keep the body alive are preserved, and the individual is able to breathe, regulate their vital signs and can survive by artificially feeding. [8]

An abbreviated 6-item version of the IES-R, known as the IES-6, (Table 1) has demonstrated sensitivity (55–96%) and specificity (74 to 99%) for PTSD symptoms in evaluations of survivors of trauma, natural disasters, and per- sonal violence in four Norwegian and Welsh samples. Hosey et al validated that IES-6 scale is a reliable and valid screening tool for detecting clinically significant symptoms of PTSD in the ICU [9] and the Diagnostic criteria for Post-Traumatic Stress Disorder (DSM-V) (Table 2).

ICU patients who are alert but unable to communicate (eg, orotracheal intubation, neurological or neuromuscular disorders, etc.), can observe and / or listen to what is happening around them, even if it is not possible emit any word or any movement, and due to this perception of the environment, they are able to maintain brain activity based on thoughts and ideas, which, in turn, are mixed with emotions produced by

(Table 1): IES-6 questionaire. *IES-R: Impact Event Sacle-Revised is a 22 item Post Traumatic Stress Disorder (PTSD) screening questionnaire.

IES-R* item no.	Item
6	I thought about it when I did not mean to
21	I felt watchful or on-guard
3	Other things kept making me think about it
12	I was aware that I still had a lot of feelings about it, but I didn't deal with them
11	I tried not to think about it
18	I had trouble concentrating

(Table 1): IES-6 questionaire. *IES-R: Impact Event Sacle-Revised is a 22 item Post Traumatic Stress Disorder (PTSD) screening questionnaire.

Applies to adults, adolescents and children over 6 years of age
The duration of the characteristics should be longer than one month after the traumatic event
1. Exposure to death, serious injury or sexual violence, whether real or threatening, in one or more of the following ways: a) Direct experience of the traumatic event b) Direct presence of the event that occurred to others c) Knowledge that the traumatic event has occurred to a close family member or close friend. In cases of threat or reality of death of a family member or friend, the event must have been violent or accidental. d) Repeated or extreme exposure to repulsive details of the traumatic event.
2. Presence of one or more of the following intrusion symptoms associated with the traumatic event, which begins after the traumatic event: a) Recurrent, involuntary and intrusive memories of the traumatic event b) Recurrent distressing dreams in which the content and/or affection of the dream is related to the traumatic event c) Dissociative reactions (retrospective scenes) in which the subject feels or acts as if the traumatic event is repeated d) Severe or prolonged psychological discomfort when exposed to internal or external factors that symbolize or resemble an aspect of the traumatic event e) Intense physiological reactions to internal or external factors that symbolize or resemble an aspect of the traumatic event.
3. Persistent avoidance of stimuli associated with the traumatic event, which begins after the traumatic event, as demonstrated by one or both of the following characteristics: a) Avoidance or effort to avoid distressing memories, thoughts or feelings about or closely associated with the traumatic event b) Avoidance or effort to avoid external reminders (people, places, conversations, activities, situations) that arouse distressing memories, thoughts or feelings about or closely associated with the traumatic event
4. Cognitive and mood negative disturbances associated with the traumatic event that begin or worsen after the traumatic event, as evidenced by two or more of the following characteristics: a) Inability to remember an important aspect of the traumatic event b) Persistent and exaggerated negative beliefs or expectations about oneself, others or the world c) Persistent distorted perception of the cause or consequences of the traumatic event that causes the individual to accuse himself or others d) Persistent negative emotional state e) Significant decline in interest or participation in significant activities f) Feeling detached or strange from others g) Persistent inability to experience positive emotions
5. Important alteration of the alert and reactivity associated with the traumatic event, which begins or worsens after the traumatic event: a) Irritable behavior and outbursts of fury expressed as verbal or physical aggression against people or objects b) Reckless or self-destructive behavior c) Hipervigilance d) Exaggerated shock response e) Concentration problems f) Sleep disturbance

amygdalin activity, contributing greatly to establish contact with the outside world through the primary emotions of the human being: joy, sadness, anger, etc.

All this through gestures or grimaces, these patients, by noticing their exterior and developing an emotion about what happens in their environment, can generate memories of what happened, questions about why they are in that place or where they are. Their relatives, accompanying this with anxious symptoms, which is manifested, mainly, with alteration of vital signs such as tachycardia and tachypnea and consequently, of a combative state or agitation, which in some occasions, requires antipsychotic treatment or even sedation.

Depression and PTSD

Some patients remember their stay in the ICU as a stressful stage and full of uncertainty, generating that the memories of that place are not pleasant, which leads them to feel sad, and added to the traumatic event that led them to the ICU, increases the possibility of a depressive episode, which is characterized mainly by low mood, emotional lability, disturbances in the sleep pattern, mainly insomnia or hypersomnia, ideas of disability and hopelessness, and whose symptoms, in turn, may be accompanied by symptoms of PTSD, so we can find a depressive episode accompanying a Post-Traumatic Stress Disorder, even uncommon, since the symptoms of PTS overlap or are more evident than the depressive episode itself [10].

Repetitive memories transformed into emotions can manifest in the form of anxiety or depression, even once the patient has recovered and has been discharged from the intensive care unit. Identifying depression in hospitalized patients is very important, since approximately 1/3 of the users seen in an ICU have depression, this rate is higher than in the general population, since the effects after spending a considerable period of time in intensive care, it interferes with their quality of life, mainly at the family and work level, as well as with their ability to assume their previous vital roles. The highest risk of depression has been observed among patients who presented psychological symptoms prior to their stay in the ICU and among those who had symptoms of psychological distress during their stay in the ICU or another part of the hospital. Symptoms of psychological distress include the classic symptoms of PTSD, mainly vivid memories, anger and nervousness, so depression could be secondary to it [11].

Individuals who present depressive symptoms upon discharge from the hospital, and who may or may not subsequently develop PTSD, experience a slower physical recovery, in addition to the social and / or economic problems that they present secondary, which exacerbates affective or post-traumatic symptoms.

Treatment

Health personnel involved in managing the patient with PTSD should focus on the following factors:

1) Physical symptoms

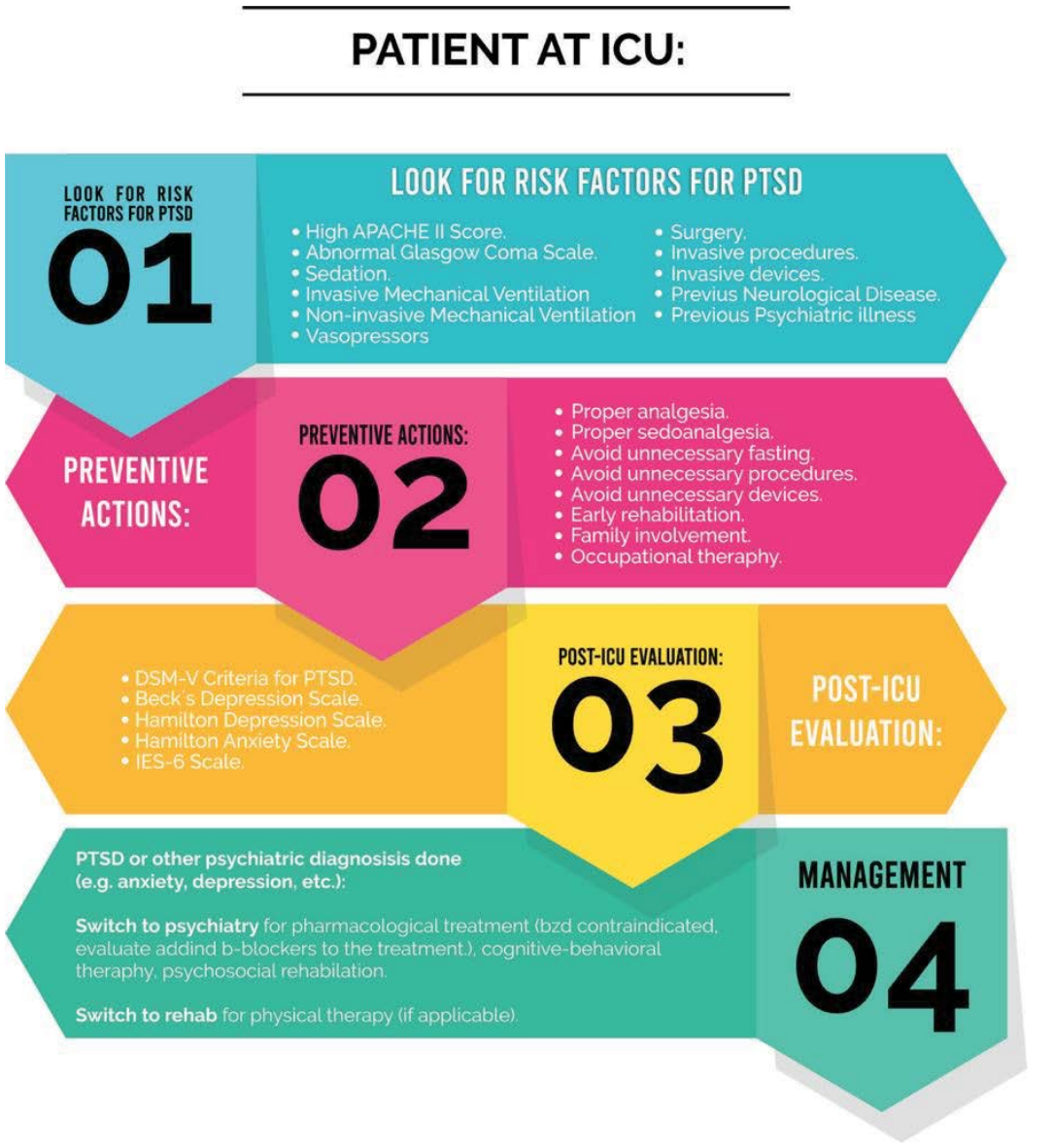
2) Psychiatric symptoms

3) Social conflicts

4) Environmental conflicts

Among the social and environmental conflicts are mainly conflicts with the close family (these include problems that may arise with the partner if they have one), financial problems, problems related to housing, among others, which can lead to exacerbate and exacerbate the patient's affective symptoms and sometimes generate resistance to treatment, which is why psychoeducation is important not only for the individual, but also for the people around them and the multidisciplinary team involved in the condition (general practitioners and specialists, nurses, social workers) as well as, make a good diagnosis of the psychiatric illness and then start appropriate treatment.

Regarding specific treatment, not only drugs are used, but also psychotherapy, of which the one that has shown the most evidence in the effectiveness of its management is that of cognitive behavioral type, another part includes psychosocial rehabilitation, which is defined as: "Set of medical care procedures aimed at improving a person's ability to carry out daily activities on their own". Rehabilitation will include both physical rehabilitation in the event that a bodily function has been diminished or limited, as well as psychosocial rehabilitation, through activities aimed at reintegrating the individual into the environment in which he previously worked. All these activities will have an impact on the individual's emotions, increasing the probability that if affective symptoms are present, they will decrease and even disappear without the need for a drug as such (Figure 1).



(Figure 1): Proposal for the identification and prevention of post-traumatic stress disorder (PTSD) in the intensive care unit.

Conclusions

Knowing the clinical spectrum of PTSD in the ICU is necessary to detect it early and channel the affected patient to the specialist in psychiatry, in order to decrease morbidity and avoid worsening of the patient's mental health and sequelae.

It is important to take into account both the physical, as well as the psychological, social, family and environmental aspects of the individual, in order to offer him the best possible treatment for his medical condition and avoid, as far as possible, the aforementioned psychiatric complications, mainly affective disorders (depression and anxiety) and / or post-traumatic stress disorder, this with the help of the multidisciplinary team and the family, who must be properly trained, or, at least, duly informed about the generalities of said disorders, and, in the case of medical personnel, always keep in mind the possibility that this may occur before, during or after the ICU stay.

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