

## Sensory Deficit in a Psycho-Traumatized: About a Clinical Case

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### Abstract

### Clinical Case

Dissociative symptoms are an important component of post-traumatic stress disorder (PTSD) and represent a temporary breakdown in the integration between emotions, perception, memory and consciousness. In PTSD, dissociation often appears as a protective mechanism against an overly intense traumatic experience, but it becomes problematic when it persists. The main clinical manifestations are depersonalization and derealization, dissociative amnesia and dissociative flashbacks. Neuropsychologically, these symptoms result from an imbalance between the amygdala (hyperactivated), the prefrontal cortex (hypoactive) and the hippocampus (disorganized). Dissociation disrupts the integration of memory, which promotes reviviscences and fragmentation of the traumatic experience. Clinically, the presence of dissociation often indicates a more severe PTSD, with an increased risk of comorbidities and a slower therapeutic response. Treatment requires a gradual approach: stabilization, anchoring techniques, adapted trauma psychotherapies (EMDR, graduated exposure, sensorimotor therapy), and sometimes drug support. In short, dissociative symptoms are both a reflection of a survival mechanism and a factor in the complexity of the disorder, requiring specialized and structured management.

**Keywords:** Post-traumatic stress disorder (PTSD), Dissociation, Depersonalization, Derealization, Amygdala, Trauma.

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## INTRODUCTION

The term psycho-trauma includes a set of symptoms that occur after exposure to a traumatic event. Post-traumatic stress disorder (PTSD) is a disorder that develops after exposure to a life-threatening or bodily injury event. Among its manifestations, dissociative symptoms occupy a special place.

Traumatic dissociation is a modified state of consciousness that allows one to extricate oneself from horror at the time of exposure to the traumatic event. Later, it can become a defense mechanism that forces the patient to act as if the traumatic event would happen again, to try to control it, thus allowing the psyche to protect itself when it is overwhelmed. It can be transient, but when it persists, it becomes a factor in the severity of PTSD. DSM-5 has introduced a dissociative subtype of PTSD, highlighting the clinical importance of these symptoms.

We present the case of a patient who presents with an acute stress disorder following the explosion of a mine and who has developed transient dissociative symptoms dominated by psycho-sensory deficits (blindness and deafness). Through this article, we will

focus on dissociative manifestations during PTSD, their neuropsychological mechanisms as well as their clinical and therapeutic implications.

### Clinical label

He is a 35-year-old soldier with no known psychiatric history who was the victim of a mine explosion during a mine clearance mission in an operational area, resulting in the death of his three comrades present during this mission.

In the hours following the event, the patient presents: functional blindness (inability to see despite a normal ophthalmological examination, fundus and brain CT without detectable abnormality), and functional deafness (lack of response to auditory stimulations, normal audiometry), no notion of head trauma, nor ocular or auditory lesion was found on somatic examination.

The initial psychiatric assessment at the admission department finds a patient dazed, mute with a fixed gaze on the ceiling, stunned with marked emotional detachment.

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The subsequent interview, after two days of hospitalization, finds a conscious patient, well oriented in time and space, He reports flashbacks of the explosion and extreme hypervigilance with temporary and recurrent installation of deafness and blindness during the evocation of the traumatic scene with impression of intense unreality.

These presented symptoms strongly evoke an acute dissociative episode, which occurred immediately after the traumatic exposure and recur during dissociative Flashbacks: (Immersion in the scene, temporary loss of landmarks, intense emotional activation). The intermittent return of perceptions, the direct traumatic context and the coherence of the picture argue in favor of a dissociative disorder related to an acute stress state.

## DISCUSSION

This case illustrates a rare but well-described form of dissociation: functional blindness and deafness after major sensory trauma. These symptoms reflect a transient collapse of psychic integration capacities in the face of an event perceived as unbearable.

They recall that dissociation is not a sign of fragility, but an extreme protective mechanism, which becomes pathological by its persistence and recurrence.

Diagnosis of the dissociative subtype of PTSD is made in patients who meet all diagnostic criteria for PTSD and who also have persistent or recurrent dissociative symptoms in response to a stressor.

### I. Dissociative Symptoms Clinic in PTSD

1. Depersonalization corresponds to a feeling of detachment from oneself: the subject perceives his body, his thoughts or his actions as foreign. In PTSD, this condition often occurs during traumatic reminders or intense stress.
2. Derealization is the impression that the environment seems strange, distant, unreal. It translates a distancing of sensory stimulations to limit emotional distress. The patient describes a feeling of fog, unreality or altered perception of the world.
3. Dissociative amnesia with inability to recall important aspects of trauma, in the absence of neurological damage. It reflects the failure to encode explicit memory during trauma, a consequence of emotional and neurobiological amazement.
4. Dissociative flashbacks: revivals in which the subject loses the sense of the present time: he relives the scene as if it were happening again. Flashback is an acute form of dissociation. The amygdala dominates the emotional response, while the prefrontal cortex can no longer anchor the subject in the « here and now. »

5. Stunned states and « freeze » reaction: During a strong traumatic activation, some patients freeze, can no longer react, or feel emotional anesthesia. This state of amazement reflects a temporary collapse of the capacities of action and regulation.
6. Behavioral automation: The subject can operate « on autopilot », with reduced awareness of his actions. This reflects a diminished sense of integration between perceptions, emotions and behaviors.

## II. Neuropsychological and pathophysiological mechanisms

### 1.Changes in brain circuits: Dissociative symptoms are explained by an imbalance between several regions:

- Amygdala: hyper activated, it generates fear and hyper vigilance.
- Hippocampus: altered by extreme stress, it no longer correctly provides contextual encoding.
- Median prefrontal cortex: hypo-active, it fails to inhibit the amygdala.
- Parietal and island network: disrupted, modifying body and emotional perception.

This pattern creates experiences of detachment, fragmentation or unreality.

### 2. Dissociation as a survival mechanism

During trauma, dissociation protects the individual from unbearable emotional pain. It reduces the sensory load, puts affects at a distance and allows a form of immediate adaptation. However, when this mechanism is repeated or stiffened, it becomes pathological and contributes to the chronicization of PTSD.

### 3. Impact on traumatic memory

Unbundling prevents consistent integration of the event. We observe a fragmented and sensory memory, a difficulty to verbalize the experience, a tendency to involuntary reviviscence (flashbacks), a weakening of the autobiographical narrative memory.

## III. Recommended therapeutic approaches

Dissociative symptoms are associated with more severe PTSD, an increased risk of comorbidities (depression, anxiety, dissociative disorders), more frequent self-aggressive behaviors, significant emotional variability, sometimes more difficult therapeutic response. Identifying dissociation is therefore essential to guide care.

### 1. Stabilization and anchoring

Before dealing directly with trauma, a stabilization phase is essential in order to avoid dissociative decompensation during trauma-centered therapies. It includes: body anchoring techniques,

emotional regulation, CBT with mindfulness techniques, psychoeducation to reduce the fear of dissociation.

**b. Trauma-centered therapies adapted to the dissociative profile: Some interventions are effective but need to be modulated:**

- EMDR: slower bilateral stimulation, double anchoring.
- Graduated exposure therapies: controlled progression, attention to dissociative thresholds.
- Sensorimotor therapy: work on body sensations.
- IFS (Internal Family Systems): disso part exploration

**c. Pharmacological approaches: No molecule directly targets dissociation:**

- SSRIs reduce general hyperactivation
- prazosin can help with nightmares
- lamotrigine or naltrexone are explored in complementary approaches.

## CONCLUSION

Dissociative symptoms in PTSD are a complex set of manifestations reflecting a temporary or persistent breakdown of the psychic unit.

They result from an initial adaptive mechanism intended to protect the individual during the trauma, but which, when it persists, becomes pathological.

Their understanding is essential to adapt care, as they influence traumatic memory, emotional regulation and therapeutic alliance.

An integrated approach, centered on stabilization, body anchoring and trauma therapy adapted to the dissociative profile, is essential to accompany patients towards healing.

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