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## NEURAL THERAPY APPROACH IN A HOSPITALIZED PATIENT WITH ACUTE STRESS DISORDER. CASE REPORT

**Keywords:** Stress Disorders; Traumatic, Acute; Neural Therapy; Complementary and Alternative Medicine.

**Palabras clave:** Trastornos de estrés traumático agudo; Medicina alternativa y complementaria; Terapia neural.

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## RESUMEN

**Introducción.** El trastorno por estrés agudo es un cuadro de rápida instauración que se da luego de un evento traumático y se caracteriza por síntomas disociativos, intrusivos, de evitación y de activación que afectan la calidad de vida del paciente. A la fecha, no se ha evidenciado una relación causal orgánica de este trastorno y tampoco existe literatura sobre su intervención mediante terapia neural intrahospitalaria.

**Presentación del caso.** Paciente femenino de 53 años quien desarrolló síntomas compatibles con un trastorno por estrés agudo posterior a la resección de una masa abdominal secundaria a un linfoma. La mujer fue valorada por el servicio de medicina neuralterapéutica, que intervino con procaína en sitios específicos de la piel —determinados por anamnesis y examen físico— con posterior mejoría de los síntomas disociativos.

**Discusión.** El enfoque neuralterapéutico permitió, por un lado, identificar un vínculo entre los síntomas disociativos de la paciente y la alteración orgánica asociada, y, por el otro, hacer una intervención con la que se logró la resolución de tales síntomas.

**Conclusiones.** La medicina neuralterapéutica ofrece estrategias de intervención a nivel hospitalario que pueden ir concomitantes al tratamiento instaurado por otras profesiones en el área de la salud ya que permite tener una perspectiva integral del paciente al considerar la estrecha relación funcional entre mente, emociones y cuerpo.

## ABSTRACT

**Introduction:** Acute stress disorder is a picture of rapid onset that follows a traumatic event. It is characterized by dissociative, intrusive, avoidance and activation symptoms that affect the quality of life of the patient. To date, there is no evidence of a relationship between altered organ function and this disorder, and there is no literature on its treatment with neural therapy on an inpatient basis.

**Case presentation:** 53-year-old woman, who developed symptoms compatible with acute stress disorder after the resection of an intra-abdominal mass diagnosed as lymphoma. The patient was assessed by the neural therapy department, which applied procaine into specific skin zones —determined by the clinical history and physical examination—, with improvement of dissociated symptoms.

**Discussion:** The neural therapy approach allowed identifying the relationship between the dissociative symptoms of the patient and the associated alteration in organ function, as well as applying a therapy that led to the resolution of the symptoms.

**Conclusions:** The neural therapy approach allows for a comprehensive perspective and treatment of the patient, taking into account the close functional relationship between mind-emotions-body. This type of treatment also offers therapeutic strategies to hospitals, which can accompany the treatment established by other health specialists.

## INTRODUCTION

According to the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (DSM-5) (1), acute stress disorder is a fast-onset condition (3 to 30 days after a traumatic experience) characterized by dissociative, intrusive, avoidance, and arousal symptoms that significantly affect the patient's quality of life. Currently, efforts are being made to recognize the magnitude of this disorder within the hospital environment, as it may be a predisposing factor for readmissions within 30 days, development of post-traumatic stress disorder, and progressive cognitive impairment. (2)

Although acute stress disorder is related to medical conditions such as sepsis, burns, acute myocardial infarction, surgeries, among others, there is no information on a direct physiological relationship between these conditions and the dissociative symptoms found in this type of disorder. To date, literature on the neural therapy approach to these patients is not available. (3-5)

Neural Therapy Medicine (NTM), as it is called by the Colombian School of Neural Therapy, is a complex medical system characterized by a holistic perspective of the individual, based on an indissoluble relationship between mind and body within the framework of the principle of monism and its adoption in the physiological theory of nervism. The latter conceives the nervous system as the coordinator of all the physiopathological states of the body. (6,7)

NTM's clinical approach recognizes that visceral-organic involvement, mediated by the cerebral cortex, may be the cause of several acute behavioral symptoms. These findings were studied in animal and human models based on the Russian synthetic physiology strategy and were recorded by the British neurologist Henry Head at the beginning of the twentieth century during his medical practice. (8-10)

This article presents the case of a patient diagnosed with acute stress disorder treated with the neural therapy approach in the hospital environment and the course of her condition during hospitalization.

## CASE PRESENTATION

Female patient, 53 years old, from Bogotá D.C. (Colombia), mestizo, housewife, of limited economic resources and with a diagnosis of early onset Parkinson's disease (since the age of 50), major depressive disorder, hypothyroidism, arterial hypertension, severe obstructive sleep apnea syndrome, coxarthrosis, dyslipidemia and obesity. The patient was taking metoprolol 50mg every 12 hours, clonidine 150mcg every 12 hours and pramipexole 1.5mg every day. Her surgical history included cholecystectomy performed at the age of 33, and hysterectomy at the age of 50; the patient reported developing depressive symptoms and motor difficulties following the latter procedure.

She had been hospitalized due to a painful mass in the lower half of the abdomen one month prior to the consultation. On that occasion, the report of contrast computed tomography (CT) of the abdomen and colonoscopy suggested cancer of the blind/ascending colon, with no biopsy report at the time of hospitalization. On January 12, 2015, she attended the Emergency Department of the Hospital de Meissen due to symptoms of nausea and abdominal pain, as well as positive findings during physical examination that showed signs of mild dehydration and globose abdomen with mass in right iliac fossa of 10x15cm, indurated and attached to deep planes, but without signs of peritoneal irritation. According to the laboratory tests taken on admission, she presented anemia (HB: 11.3) without leukocytosis (7 700); therefore, she was hospitalized for right hemicolectomy due to clinical suspicion of intestinal obstruction.

During hospital stay, the patient developed affective and anxious symptoms related to her clinical condition. She was assessed by the psychology service, which provided cognitive therapy for restructuring and elaboration of the mourning process (recent death of the father), and referred her to the psychiatry service taking into account her history of major depressive disorder. The psychiatry service considered that she was experiencing the reactivation of affective and anxious symptoms associated with her clinical condition, without the presence of dissociative symptoms or alteration in the state of consciousness or care. No medication was recommended at this point because of the risk of side effects considering her current state of health, so management with clonazepam 2.5mg was indicated only in case of insomnia.

On January 23, the patient was taken to surgery, finding extensive mass with infiltration to adjacent structures: involvement of right ureter, deep primitive iliac vessels and right hypogastrics, intestinal perforation and generalized peritonitis. Right hemicolectomy, omentectomy, resection of abdominal wall segment, and distal endermine-terminal colon-ileus anastomosis were performed, while antibiotic management (ampicillin sulbactam) with subsequent escalation to meropenem and vancomycin was indicated due to the persistence of systemic inflammatory response syndrome (SIRS) and positive blood culture report for gram-negative and gram-positive bacteria. In addition, an oncology assessment was requested since the biopsy report prior to the current hospitalization suggested the presence of lymphoma.

After the surgery, the patient developed symptoms that suggested intestinal obstruction and persistence of SIRS, so a CT of the abdomen was ordered with double contrast limited by intolerance to the oral route. The imaging findings revealed abundant free fluid inside the

abdominal cavity that required a new surgery on January 31; during the procedure, a hematoma was found in the abdominal wall without dehiscence of distal colon-ileus anastomosis.

Following the second surgery, the affective symptoms persisted and were reflected in non-adherence to non-pharmacological recommendations given by the treating service. For this reason, a new evaluation by psychiatry was requested on February 3, reporting that her behavior was a secondary reaction to multiple stressors, including conflicts with the nursing staff; further management by this specialty was not indicated.

The patient persisted in her low adherence to medical recommendations, so a new evaluation by Social work and Psychology services was requested. On February 6 they interviewed the patient and reported that she said that she did not receive adequate care from the nursing staff and had affective and anxious symptoms due to her medical condition. As treatment, emotional support was provided and work was developed on "negative disturbing cognitions versus medical condition".

The patient continued presenting affective symptoms, as well as signs of SIRS and aggravation of anemia, requiring transfusion support. Due to the persistence of affective symptoms, on February 12, the support of the NTM service was requested, and an intervention was carried out on the same day. During the interview, the patient reported that she had feelings of anxiety, suspicion and persecution at night after the surgery, which were associated to sensations of thoracic oppression, palpitations, dyspnea and heat in the vertical region of the scalp. The physical examination showed hypersensitivity points in the anterior thorax at bilateral costochondral joints (Head's heart area), scarce hypersensitivity points in the right iliac fossa and hypersensitivity points in the vertical and

occipital zones of the scalp (Head's liver and intestine areas, respectively).

Procaine was administered in the sites referred to as anchors of physical sensations associated with affective symptoms and located in the thoracic area and scalp, specifically, painful points in the anterior thorax from T3 to T6 and painful points in the vertical and occipital zone of the scalp. NTM's records state that the patient said that she did not have new episodes of anxiety, panic or thoracic oppression the day after the intervention, but the feeling of "heat" in her head and nausea persisted. Findings on mood swings were also reported in the general surgery evolution notes: "patient reports feeling better and having a good night," "patient says she is livelier."

On February 18, during the follow-up by NTM, the patient reported an improvement in her mood, without new episodes of nocturnal panic or thoracic oppression, but also described an increase in nausea. On physical examination, in addition to dehiscence of the distal third of the surgical wound with the presence of serohematic fluid, the patient presented areas of abdominal cutaneous hypersensitivity from T6 to T10 (upper part of the stomach and intestine area). The NTM service considered that the initial irritation involved in the anxious and adaptable symptoms was clearly related to abdominal symptoms, so procaine was administered in the identified Head areas (anterior region of dermatomas T6 to T10). No adverse events or complications were reported after the procedure.

Subsequently, her clinical picture improved, showing modulation of inflammatory response, so the general surgery service discharged her on February 21. The patient did not attend outpatient follow-up consultations with the neural therapy service at Hospital de Meissen and died at home in March as a result of systemic

involvement secondary to a neoplasm. In 2018, her daughters provided informed consent for the review of the clinical history.

## DISCUSSION

According to its definition, acute stress disorder is secondary to a traumatic event, but is not the direct result of an organic alteration, as is the case of acute confusional state.

In the clinical case described here it was possible to observe dissociative symptoms, negative mood, sleep disturbance and irritable behavior after the first surgery. After reviewing the clinical history and reaching a consensus, the authors considered that the symptoms were compatible with acute stress disorder characterized by negative mood and dissociative, avoidance and warning symptoms that persisted from 3 to 30 days after the traumatic event occurred, and at least nine of the symptoms were included in the categories of intrusion symptoms. (1,11)

Acute stress disorder has been identified in patients hospitalized for various causes, including infectious, traumatic, ischemic and surgical processes; however, to date, that the physiological alteration secondary to these processes is, per se, a determining factor of the disorder has not been ruled out. (3,4)

In 1901, Dr. Henry Head described some clinical cases in which previously healthy patients presented sudden behavioral changes parallel to a visceral disease. These changes included visual, auditory, and olfactory hallucinations; depression; exaltation; and suspicion. The latter, which was observed in the clinical case reported here, was described as a sudden feeling of distrust and thoughts of being judged/criticized by others, even though there was no real basis to justify these thoughts. (8) The common denominator of hospitalized patients who reported mental

symptoms was pain and skin hypersensitivity in the trunk and reflex areas on the scalp, of sudden or rapidly progressive instauration, and of considerable intensity. (8,12)

To identify mental changes secondary to visceral diseases, Dr. Head initially relied on his description of visceral dermatomas, which is described in his 1892 doctoral thesis and published in the *Brain* journal. He created a segmental map, without areas of overlap, which, in light of current knowledge, make evident the reflected innate connection between viscerotomes and dermatomes of the same embryological somites. The skin areas compromised by visceral alteration show hypersensitivity or increased perception at cold or warm temperatures during surface examination. (12-14)

Currently, some authors call this map algetic dermatomes, since it is based on the exploration of pain and temperature (protopathic sensibility) and does not overlap, as opposed to aesthetic or tactile dermatomas, widely described by Sherrington, which do overlap and are based on the exploration of touch and pressure (epicritic sensibility). (12,15)

All these findings demonstrate the association between mind and body in a disease process, which is compatible with the conceptual bases of NTM, including nervism, a physiological current that considers the nervous system as a governing unit of an individual's adaptation processes, among them, pathological processes known as neurodystrophies. (9,16,17) They are alterations in the tone of the nervous system that occur after being subjected to pathological irritation, either by an irritating stimulus or by the sum of stimuli that cause a permanent state of excitement mediated by the cerebral cortex, leading to a final state of inhibition or parabiosis. This final state was described by Wedensky and is observed in somatic, mental or emotional symptoms. (9,10,16-18)

The NTM identifies the relationship between physical, mental and emotional symptoms and signs that are part of a morbid process, as well as their possible initial cause by approaching the individual's uniqueness through a thorough exploration of their life history, physical examination and diagnostic aids. (19) The central axis of the NTM intervention is the application of neural therapy (local anesthetics) in specific sites in order to regulate neuron function in a process known as self-eco-organization (neologism based on Morin's complex thought and biocybernetics). (17,20).

With respect to the clinical case reported here, it should be noted that the neural therapy assessment was requested due to the persistence of the patient's dissociative symptoms, despite the interventions carried out by the psychiatry and psychology services. The symptoms referred by the patient during consultation, their temporal relationship after surgery and the sensibility findings in dermatomas on physical examination according to Head—heart, stomach, intestines and liver— oriented the neural therapy diagnosis towards a basic visceral alteration. She also had two previous irritations caused by surgeries in the gastrointestinal area which favored the generalization of dystrophy. This resulted in the onset of dissociative behavioral symptoms that resolved with neural therapy in the corresponding skin points, thus leading to a perception of improvement in the clinical behavioral picture of the patient and the medical team during the last days of her hospital stay.

The limitations of this study include the unfeasibility of follow-up of the patient, since she died three years before beginning with this work; however, informed consent was provided by the daughters in 2018. In addition, the acute stress disorder diagnosis was not made during the patient's hospitalization period, but during the execution of the project and based on the

review of the clinical history and after the authors reached a consensus; for this reason, it was not possible to rate in-hospital follow-up scales of the disorder.

Another limitation is the scarce literature on the neural therapy approach to psychiatric disorders. To date, there are few studies that consider this type of intervention as a potential tool in adaptive emotional processes, although NTM treatments have been reported which aim at treating bulimia and anxiety disorder, with no records of cases of patients with acute stress disorder treated with this medical system. (21,22)

## CONCLUSIONS

Based on the reported case, it is possible to suggest that the acute onset of behavioral disorders after visceral irritation may correspond to Henry Head's classic descriptions of the beginning of the twentieth century. These behavioral disorders could also be explained from the physiological perspective of nervism, which is based on the work of scholars such as Ivan Petrovich Pavlov.

In order to validate the observations contained in this article, it is necessary to create a line of research in the field of NTM under other methodological designs, with a higher level of evidence and a larger sample of patients.

Finally, the article raises the possibility of applying neural therapy care in the hospital environment, along with the treatment established by other health specialties and bearing in mind that, in Colombia, NTM has been limited, largely, to the private practice. However, at the intrahospital level, this could be a diagnostic and therapeutic approach to improving the patient's quality of life.

## CONFLICTS OF INTEREST

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