

# Severe Brain Trauma

## Traumatismo craneoencefálico severo

Cortés-Alvarez, Yolanda\*<sup>a</sup>, Estrella-Velázquez, Rafael <sup>b</sup>, Gonzalez-Neri, Aarón Iván <sup>c</sup> and Gonzalez-Neri, Héctor Miguel <sup>d</sup>

<sup>a</sup> Universidad Autónoma de Querétaro • 000-0002-0128-3415 • 595702

<sup>b</sup> Universidad Autónoma de Querétaro • X-3105-2018 • 0000-0003-3236-4397 • 820405

<sup>c</sup> Universidad Autónoma de Querétaro • 0000-0002-4082-0746

<sup>d</sup> Universidad Autónoma de Querétaro • X-7043-2018 • 0000-0002-8026-7260

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\* [\[finanzasycobranzas@hotmail.com\]](mailto:finanzasycobranzas@hotmail.com)



**Abstract**

This research points out how valuable the brain is in the human being, the definition of the Word brain is given, its parts, responsibilities, actions to keep it in Good shape, the power it has, the senses it indicates and the nervous system, coloidal mineral. A case study is presented o fan accident that caused a teacher servere craneocerebral trauma and the progress that has been achieved over five years of recovery, after remaining in a coma, she has already achived movement in her body and her memory is she feed very well, she remembers absolutely everything, except the accident and by sharing hers experience with the objective of this research to creaty awareness in human beings and to understand how important the brain is to continue alive in this word.

**Resumen**

Esta investigación señala lo valioso que el cerebro es en el ser humano , se da la definición de la palabra cerebro, sus partes, responsabilidades, acciones para mantenerlo en buena forma, el poder que tiene, los sentidos que indica y el sistema nervioso, coloidal mineral. Se presenta un estudio de caso de un accidente que ocasionó a una docente trauma craneoencefálico severo y el avance que se ha logrado a lo largo de cinco años de recuperación, después de permanecer en coma, ya logró el movimiento en su cuerpo y su memoria se encuentra muy bien, recuerda absolutamente todo, menos lo del accidente y al compartir su experiencia con el objetivo de esta investigación de crear conciencia en el ser humano y que se comprenda lo importante que es el cerebro para continuar con vida en este mundo.

Objective	Method	Result
To creaty awareness in human beings and to understand how important the brain is to continue alive in this word. 	A case study. 	She has already achived movement in her body and her memory is she feed very well, she remembers absolutely everything. 

Objetivo	Metodo	Resultado
Crear conciencia en el ser humano y que se comprenda lo importante que es el cerebro para continuar con vida en este mundo 	Estudio de caso 	Avance de movimiento de cuerpo y memoria 

**Brains, Coloidal, Human being, Trauma**

**Cerebro, Coloidal, Ser Humano, Traumatismo**

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## Introduction

As a consequence of an accident caused by an articulated tractor-trailer with a cage-type semitrailer carrying corn, where the teacher's vehicle was under the semitrailer. (IMSS, F0637, 27/09/2018).

## Diagnostic impression of the injured party

The diagnostic impression was that he suffered serious brain contusion injuries with loss of alertness, accident on the Mexico-Queretaro motorway. TCE - severe cranioencephalic traumatism - with severe cerebral oedema (severe cranioencephalic traumatism). This injury is the most frequent cause of brain damage. TCE and if it is indicated as severe, even more than trauma, the damage is immeasurable) (IMSS, F0637, 27/09/2018), (Torres 2002).

## Brain Injury:

Diffuse Brain Injury: there are three pathological grades of Diffuse Axonal Injury (DAI):

- Grade I. Without focal lesions.
- Grade II. Focal lesions in the corpus callosum
- Grade III. Focal lesions in the corpus callosum and dorsolateral quadrant of the rostral brainstem (Torres, 2002).

## Definition of Central Nervous System (Lambert, 2010)

The central nervous system consists of the brain and spinal cord. In addition, the central nervous system is protected by the skull which comprises: the cerebrum, cerebellum and medulla oblongata. (Dowshen, 2018)

Encephalon + Spinal cord = Central Nervous System

Central Nervous System = The Skull

Protected by:

- The Skull comprises: -The Cerebrum
- The Cerebellum
- The medulla oblongata -The medulla oblongata -The spinal cord (UNAM, 2019)

The brain: is the most complex structure of the human organism, it has one hundred billion nerve cells (Lambert, 2010) and is the main nerve centre; its different areas are mainly responsible for:

- Movement: Without the Telencephalon the body could not move (Greathouse, 2011).
- Emotions and perceptions (Greathouse, 2011).

Your brain makes you feel:

- Sad. When you can't go dancing.
  - Happy. Because your birthday is coming up.
- Behaviour. It is who says you love your family, it is not your heart that dictates it.

Higher mental functions are carried out in the brain.

The brain understands what is observed after the eye nerves send a message to the brain.

The brain gets stronger every time you learn something.

The brain is strengthened every time something is practised. Therefore every time you repeat something you get to do it better.

The brain is working even when you are asleep, that is why you have dreams.

## Parts of the brain: (Suzuki, et al., 2019)

- Telencephalon: Largest part of the brain. It is in charge of thinking, helps move the body, without this part of the brain you could not hit a baseball or solve a mathematical problem.
- Brainstem: In charge of breathing. It tells the heart to pump more blood when you start to run. It even tells the stomach to defer lunch.

## Actions to keep the brain in good shape:

- Eat healthy food (fruits, vegetables, protein)
- Get plenty of exercise
- Get plenty of sleep
- Read

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5. Play music (music should reveal the emotions of the heart).
6. Do not use drugs or alcohol

**Brain power:**

The brain is the boss of the whole body because:

1. It stores all memories
2. It tells what to say and do.
3. It keeps the body alive

If the human being takes care of his brain, the brain will take care of the human being and his senses:

**Senses of the human being (Lambert, 2010):**

The following five senses are identified:

1. Sight
2. Hearing
3. Touch
4. Smell
5. Flavour (taste)

A medical neuroscientist transforms the way we think about the brain, health and personal happiness. In this way to reveal the powerful connection between exercise, learning, memory and cognitive skills, international neuroscientist Suzuki learned how to protect herself from stress, negative thoughts, trauma and addictions. She considers herself a living example of neuroscience, because everything she did to her body changed her brain (Suzuki, et al. 2016).

This considered from her perspective as a neuroscientist led her to discover that -Using the brain is to achieve happiness-. Suzuki currently works at New York University (NYU) in the United States of America. She not only teaches courses for neuroscience students that incorporate exercise into the class, but also teaches a free exercise class every open week at NYU.

Nearing her 40th birthday, Dr. Wendy Suzuki, an expert in neuroscience, was at the top of her profession. She won awards for being of high quality in her highly prestigious skills as a university professor. To celebrate her 40th birthday she wrote a book of an adventurous journey that forced her to stand up against her reality to think of her professional success.

She was overweight, a lonely, tired woman and knew her life had to change. So she started simply - by going to an exercise class, she eventually noticed an improvement in her memory, her energy levels and her ability to work quickly and move from activities or tasks to more manageable tasks and activities.

With exercise, the body feels more alive, the brain will function better. A human being can become smarter. And the project results showed Suzuki (2016) that it can occupy the mind, improve memory, ability to learn new skills and better functioning.

The brain is the structure that defines how you see, feel, taste, smell and hear as Lambert (2010) puts it in his five senses of the brain he mentions. These senses developed in the world around us. Furthermore the above defines personalities and allows us to go from crying to laughing and sometimes backwards in our eyes.

**Colloidal Mineral**

According to the consultation 'colloidal minerals are found in the organism because we consume them in our food, they are indispensable for a great number of organic functions and their deficiency can produce severe health problems.

For example, some colloidal minerals are necessary for: the activation of enzymes responsible for the synthesis of proteins, others to maintain a barrier against fungi, parasites and bacteria, others participate in hormone regulation, in the functioning of the immune system and even in the synthesis of DNA, among many other vital functions'.

**Box 1**

**Figure 1**  
Supernaturista

### Methodological approach

According to Hernández and Mendoza (2018), to start this work, the problem was identified, and once this was done, the study was delimited. And the methodology, which are the methodological bases to be adopted for carrying out the research.

When considering this problem as a research project, it was defined that the method to be followed would be qualitative, as it implies aspects such as: considering different existing approaches. Furthermore, this project is situated in the area of social sciences.

And qualitative research requires a deep understanding of human engagement and the reasons for the different aspects of such behaviour. In other words, this qualitative method investigates why and how a decision was made, as well as it is supported by small samples, it is the technique of observing small population groups, such as classrooms, municipalities, an organisation, or a person, as is the case in this study. Balcazar (2005:54) A person in an educational institution.

For Ruiz Olabuenaga (1999:11) the qualitative techniques that this research seeks is a) to describe and understand the detailed means through which the subject embarks on meaningful actions and create a world of their own and others. In-depth b) descriptions were also conducted. This work was also positioned as a case study, as it will be the intensive exploration of a unit of study which can be considered, a person, family, municipality, community or institution and then one person will be located in an institution. And it was hoped that as Burns (2010:221) identifies that it will be a good source of descriptive information and that it will be evidence to support theories or to invalidate them. And it is expected that findings will be found. It is considered as a descriptive and explanatory case study according to Yin (1993:5). For validity it will be carried out with the existing contact of the specialists and the subject of study according to as stated by Suarez (2002).

### Results

The researcher was hospitalised in two different hospitals before she was discharged and moved to her father's house.

The second time she was in hospital from 11 October to 19 October in the second hospital.

Subsequently, she regained consciousness at the beginning of December 2018.

She was discharged by the MSS on 26 February 2019. She was never given a copy of her discharge, she was only informed that she would report to work as normal on the 26th.

It was very interesting to listen to the person affected with severe craniocerebral traumatism and who today recognises that life can only be understood backwards, but it is necessary to live it forwards, because as we know, when a lasting change occurs, such as the traumatism he suffered, it is about to mark the life of a person. He also managed to share that today he understands that life has white moments Paver (2019) and black moments Jauregui (2008:166) and one decides oneself to which colour one can give more weight, more importance, because if one were to place these colours with the wolf animal, Jordan (2010) then the black wolf demonstrates the ego of the person, anger, negative things. The white wolf shows essence, sympathy, it is where the essence, values, virtues, virtues, positive things, part of who you are.

If you decide to feed the white wolf it will make you stronger and the human being should not climb on the partition because suddenly you can get dizzy and fall. He also managed to understand that life is too short to worry about silly things, the human being must have fun, fall in love, not regret this, nor allow others to extinguish the light with which the human being shines.

The author Paver (2019:23) mentions that wolves are very similar to human beings, and that each of the 23 different species that exist and that are spread throughout the northern half of the planet can be identified and differentiated without much difficulty. The weight of the males of this animal is between 40 and 70 kgs. And the females are identified as 20% lighter than the males, between 32 and 55 kgs. However, as an effect of the individual variability of these animals, there are the following cases considered as exceptions to the weights mentioned above, and these weights belong to wolves that have already been captured.

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- a) 80 kgs. In North America. The colours of these wolves are according to the author Jordan (2010:18) White wolves. Grey wolves. Brown wolves. Red wolves. The colours of Eurasian wolves: White and grey wolves. Brown wolves and Red wolves.
- b) 96 Kgs. In Carpathians
- c) 75 kgs. In Romania

A wolf can live between 13 and 14 years in captivity and in the wild it is very difficult for them to reach that age. The constant harassment by humans and the progressive destruction of the natural habitats prevent them from continuing to live, both of which have a very negative influence on their ability to continue to live.

The wolf according to Jordan (2010:24) in its chases reaches a maximum speed of 40-45 km/hr. -And its prey surpasses it in:

- a) Deer: 65 km/hr.
- b) Hares and fallow deer: 60 km/hr.
- c) Mouflon: 50 km/hr.

The tail of wolves is between 30 and 40 cm. The height of agreement to the shoulders of a human being is between 60 and 90 cm. The length of the body, only from the head to the trunk is 110 to 140 cm.

The characteristics are very similar to those of the human being with regard to the coat, as the wolf's coat is adapted to the environment and climate in which it lives its life, due to the fact that this species presents notable racial and individual differences.

It is also noted that the anatomical and psychological diversity of the wolf is reminiscent of that of the human species, where facial features, height, skin tone and behaviour are enormously varied across the globe. Jordan (2010:23)

Life must be understood as a challenge and challenges will always lead to choices. That is invaluable for human beings. The best way to think and make good decisions is:

- a) To know that there are limits. But from today, from now on, there are no limits.
- b) To have enough guts for everything.

One has to have considerations of the environment and know one's functions, from them one could move forward or backward.

With regard to the values of peace and self-esteem, what was heard on 6 September 2018 at the beginning of the year meeting at her son's school by the person with severe TCE was taken up again.

- You don't have to feel bad if you make mistakes.
- You will always learn
- You always think positively.

With this you get to have a better attitude towards life, a beauty of soul and connection with the other beings that surround the human being, apart from knowing better who we are, accept who we are, how we are, with this you will dress to accept yourself, you will love yourself.

It is also understood that the character type does not work for people who are not disturbed and who suffer. In 1962 there was the experiment that revealed that existence is a brief crack of light between two obscurations. There was also the obedience experiment in 1970.

The domino effect is activated at the moment of assuming the role of the master.

There is some awareness of who the teacher is at the beginning of December, having a first consultation with a neurologist in the municipality on 7 December, 2018. He continued to give her medication to finish the healing process of the brain.

Day Monday 31 December, 2018. Attendance at 1st. Appointment at the IMSS aware that this is the person who suffered the accident and requires to attend a consultation to continue giving him his disability. Time: 15:00 hrs. UMF6, Office 10.

Tuesday, February 5, 2019 appointment in office no. 10 of the IMSS in San Juan del Río, Qro.

Monday February 25, 2019 ophthalmology discharged for the issue of vision.

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Monday, March 11 IMSS San Juan del Rio, taking X-rays of the head to be consulted by the otolaryngologist and issued a diagnosis of their specialty.

20 March, happiness is increased on the occasion of the International Day of Happiness. And the formula for preparing the ground for happiness to flourish is taken up again.

Happiness can only be found in the here and now of the present moment.

Be grateful for difficult moments.

1. The state of serving, sharing and loving
2. The healthier you are, the more you nourish your body and the more you are in favour of happiness.
3. Have positive thinking.

Happiness is not only your right, but your obligation.

Formula:

Happiness = Predisposition + Living conditions + Voluntary activities.

$$F = P + C + A \quad (1)$$

So if you say: 'I am happy', you should not make your happiness dependent on someone else.

If you don't want to be a monkey, you have to decide how you want to take the situation and in what way it will affect you.

March 25, 2019 discharged from IMSS, however, a copy of the discharge was not given to the person concerned.

Friday, 29 March, start of treatment by IMSS ear, nose and throat specialist with Avamis drops and saline water washes.

5 May, treatment with Avamys 27.5 drops was completed at night.

Since the patient had not understood that the after-effects of the severe TBI had already appeared at the beginning of the year, she investigated why the smell, taste and flavour had disappeared and thought that perhaps she did not have enough zinc in her body, so she investigated the following about zinc.

Zinc is the nutritional element to increase the function of taste and flavour.

There is no data on how much zinc is required in the body, nor how much is needed. The body's absorption is 20%, which takes place in the small intestine. The recommended daily amount is 15 mg/day. If zinc absorption is not required, the following should not be eaten: red meat, whole grains, seafood, dairy products.

Zinc-rich foods: chickpeas, pumpkin seeds.

Symptoms of zinc deficiency:

- a) problems with the sense of taste
- b) Problems with the sense of smell.

Products sold with zinc: -Nutrioli oil.

Jul 20, 2019. The affected person once she had already presented herself at the San Juan del Río prosecutor's office to inform the prosecutor that she was still alive and that they could continue with the investigation, as she had attended to ratify her identity.

The prosecutor then asked him to present himself for a medical examination at the State Prosecutor's Office so that they could issue a certificate on the physical health of the man who had suffered severe cranioencephalic trauma. It is important to consider that the doctor on duty uses two types of certificates:

- a) Informative, where it is mentioned that there is still no document that supports a physical sequelae or disorder, or that the person has not yet been discharged by the IMSS.
- b) medical certificate where it is indicated that there is no evidence that any doctor says that there are sequelae from the head injury that was suffered.

Sequelae of the severe cranio-encephalic traumatism.

20 July, 2019. The affected party went to the State Prosecutor's Office for a medical consultation and the doctor who checked the affected party was the doctor who went to the IMSS to check her physical condition on the day of her accident. The injured party had the following questions: by the date of the appointment: 10 months after the accident.

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1. Remember absolutely nothing of the day of the accident until she regains consciousness of who she is and knows at that moment that she had an accident (3 months after 27/September/2018). I can wait how long until I remember? \_\_\_\_\_ is good \_\_\_ is bad? \_\_\_\_\_
2. Not counting on taste, smell and flavour when eating anything or any product or not perceiving any smell, even of gas.

How long does it take for my brain to find a way to accommodate the nerves and if the taste, smell and flavour is lost, how long can I wait for it to return?

3. From your perspective and experience, what would be the worst sequelae to appear in the two years and almost two months remaining? \_\_\_\_\_

The Doctor comments that he will issue his opinion to the prosecutor who is requesting it for information so that he can give me more time to present him with a diagnosis or clinical history of the severe cranio-encephalic traumatism, given that none of the documents that I have with me indicate or mention the discharge and the sequelae that have already appeared at the beginning of 2019. So it is necessary for the injured person to present evidence for those that are being taken and that it is by specialist or IMSS because if the forensic doctor mentions them in his report, the prosecutor will ask him what documents he bases his opinion on and none of them mention that there is any sequelae or that the injured person with severe TCE is already discharged.

It was then very evident that on July 22nd, the affected person had no knowledge of the sequelae she had in terms of the severe cranioencephalic trauma she suffered, which made it necessary to have an appointment with the neurologist and until then she knew that the function of taste, smell and flavour were indeed sequelae caused by severe TCE. And the balance needed to continue to be worked on.

One of the foods that was consumed and perhaps provided good results was avocado. And by doing a research, it was found that consuming avocado on a daily basis has the following benefits:

- a. Prevents bad breath.
- b. Reduces tissue inflammation. It treats arthritis and reduces muscle inflammation.
- c. Combats nausea and vomiting caused by pregnancy (Notmusa, 2019).

Important notes in Mexico to share with people: According to the Pan American Health Organization (2019). Every two hours a person dies in Mexico in a road accident.

#### Causes of accidents:

- a) Cell phone use
- b) Speeding (drinking alcohol)
- c) Speeding without alcohol

Breathalyzers are to save the lives of young people, who use their mobile phones to tell each other where the breathalyser is.

The biggest help is not the breathalyser but the awareness of not drinking when driving.

Mexico is 7th in the world in road accidents. 24,000 Mexican people die every year. 'If you drink, don't drive'.

It is very important to share the lived experience of this accident so that the human being knows that even a minor blow to the brain could cause the death of the person. It is wonderful every day to open my eyes, to continue living in this world as a teacher-researcher, to be able to continue in a classroom teaching and to be able to share with future generations the experience and to create awareness of how important the brain is in the human being. Given the above and considering that the brain is a valuable piece, the professor-researcher took the decision to attend a treatment with drugs called colloids and it is just two years ago that she is taking it and on September 16, 2023 the doctor who treats her, mentions that she is already 93% of returning her taste and smell which are after-effects of the accident he had.

#### Declarations

#### Contribucion of authors

*Cortés-Alvarez, Yolanda:* In the Introduction and Results section

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*Estrella-Velázquez, Rafael:* In the Methodology and References section

*Gonzalez-Neri, Aarón Iván:* In the Introduction, References and Results section

*Gonzalez-Neri, Héctor Miguel:* In the References and Results section

### Availability of data and materials

Being a case study of a known person, the existing data were very real. And each researcher had a computer which allowed them to carry out the work in an orderly manner and within the established times.

### Funding

No funding was available for this research.

### Abbreviations

No abbreviations were used in the research.

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