

Heracles and epilepsy: the sacred disease

Hércules y la epilepsia: la enfermedad sagrada

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ABSTRACT

Epilepsy is one of the most dreaded and terrifying human afflictions. One of the many names it has received was Sacred Disease, during Greek times. Heracles served as a source of the divine connotation that epilepsy received in ancient times, as he was one of the most important demigods in Greek mythology. However, several authors have attributed Heracles' actions to a seizure, including Hippocrates, who described the sacred disease on his "*Corpus Hippocraticum*." This paper reviewed some of the publications on the myth and content of the text of Hippocrates, in relation to the current knowledge of the disease.

Keywords: Epilepsy; Mythology; Neurosciences; History of Medicine.

RESUMEN

La epilepsia es una de las enfermedades más temidas y terroríficas de la humanidad. Durante el periodo griego, recibió uno de sus muchos nombres, el de enfermedad sagrada. Hércules sirvió como una de las fuentes para la connotación divina que la epilepsia recibió en tiempos antiguos, debido a que fue uno de los semidioses más importantes de la mitología griega. Sin embargo, muchos autores atribuyeron las acciones de Hércules a convulsiones, incluyendo Hipócrates, quien describió la enfermedad sagrada en su "*Corpus Hippocraticum*". Este artículo revisa algunas de las publicaciones sobre el mito y el contenido del texto de Hipócrates, en relación al conocimiento actual de la enfermedad.

Palabras clave: Epilepsia; Mitología; Neurociencias; Historia de la medicina.

Epilepsy has been seen through many different standpoints since its inception. During the first periods of humankind, it was surrounded by an aura of mysticism and divinity, but as scientific knowledge evolved, the concept of epilepsy has changed. Although historical records of epilepsy date back to 2000 BCE (Assyrian and Babylonian texts), the origin of the word is considered to come from the ancient Greek verb "epilambanein," which means "to seize possess or afflict"¹. Epilepsy had different names during the Greek era, such as seliniasmos, sacred disease, and demonism¹. One of the denominations for the condition is "Herculean disease," as many authors believe that the demigod suffered from epilepsy¹. Euripides, the Greek tragic poet, attributes Heracles' madness to epilepsy in his renowned play "Heracles"². The Romans also worshipped Heracles as a hero-god, and differences between Latin and Greek changed the name Heracles to "Hercules"³. Roman physicians started calling epilepsy "*Morbus Herculi*" as well as to explain Hercules' madness⁴. Aëtius also used this expression to represent the physical strength manifested by a person in a convulsion⁴.

The demigod was the son of Zeus and Alcmena, queen of Mycenae⁵. Amphytrion (real husband of Alcmena) was assembling an army to reconquer Mycenae and avenge the death of his wife's brothers⁵. During this period, Zeus took advantage of Amphytrion's absence, impersonating him to lay with her for one night⁵. When Amphytrion arrived, he consulted a seer, who told him that he had been cuckolded by Zeus⁵. A few months later, Zeus boasted to the other gods in Olympus that he had begotten his greatest creation so far, whom he called Heracles (Glory of Hera)⁵. Hera hated Heracles because he was the fruit of Zeus' infidelity and perpetrated multiple attempts to kill him or make his life miserable⁵. Abandoned by his mother, who feared Hera's threats, Zeus' son was found by the goddess herself, during a casual stroll with Athena. Ignoring the identity of the child, Athena convinced Hera of breastfeeding him⁵. The child bit Hera's nipple with such immense force that it made her fling him down in pain⁶. The resulting spurt of milk flew across the sky and became the milky way (Figure 1)⁷.

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Figure 1. The origin of the milky way by Peter Paul Rubens (1636)⁷.

In Euripides' play "Herakles," this brave man is in Hades' domains for the last of his Labors; meanwhile, the uprising tyrant Lykos, who had killed Creon, king of Thebes, threatens Heracles' family⁸. The hero returns before Lykos can go through with the murder and slays him in Zeus' Soter Altar⁸. Hera took advantage of this situation and sent her servants Iris and Lyssa to madden Heracles, making him believe that he had to kill king Eurystheus⁸. Heracles' madness is clearly depicted in the following fragment:

Messenger: ...he was no longer himself; his features were distorted. His pupils were rolling around in his eyes that were suddenly bloodshot, and foam was dripping onto his bushy beard.⁸

The demigod, driven into madness, mistook his wife and children for Eurystheus' family, ending up killing them, oblivious of his actions (Figure 2)⁹:

Herakles: War? Who did this? Who-destroyed them?...
 Herakles: And my wife-was I the one- responsible?
 Amphitryon: All of this... by one hand. Yours.⁸

The Roman counterpart of "Herakles" was "Hercules Furens," a play by Seneca the younger¹⁰. In this play, the author attributes the demigod's madness to physical exhaustion, as it transmuted to psychological exhaustion leading to temporary insanity¹⁰. Epilepsy was considered a "sacred disease" since ancient Greek medicine¹⁰. Depending on the symptoms of the epileptic seizure, it was attributed to several deities, including Hera, Cybele, Poseidon, Mars, Hekate, Hermes, and Apollo¹¹. Hippocrates of Kos was the first author to argue against the divine origin of the sacred disease on his "*Corpus Hippocraticum*"¹²:

Le cerveau est l'origine de l'épilepsie comme de toutes les autres très-grandes maladies... ("The brain is the origin of epilepsy, as any of the other great diseases.")¹³



Figure 2. Hercules firing arrows at his children by Antonio Canova De Agostini (1799)⁹.

L'altération du cerveau se fait pour la pituite ou par la bile.
 ("Depravement of the brain arises from phlegm and bile.")¹³

Regardless of the source, the madness of Heracles could represent what has been described as "*les états crépusculaires*" (crepuscular states) in the French literature¹⁴. Postictal psychosis (PP) is the most frequent of the psychoses in epilepsy (25%)¹⁵. These are characterized by having a lucid interval (between the end of the seizure and the onset of psychotic symptoms), religious delusions, violent behavior, aggression, and visual hallucinations, following a complex partial seizure usually located in the temporal lobe¹⁵. Both verbal and physical violence can occur, and suicide has been associated with PP¹⁵.

Aggression is a complex behavior governed by neuroanatomic structures such as the temporal lobe and the amygdala¹⁶. Violent acts in epileptic patients have been described in the literature for over a century¹⁷. Patients are on a confusional state and exhibit resistive violence during postictal acts¹⁷. This has been described by Pandya et al., who performed a review of no less than 50 cases of epileptic patients committing murder and being placed on trial¹⁷.

Epilepsy was believed to be an instrument of punishment sent by the gods. Euripides and Seneca conveyed through their plays that this was not a divine act; instead, it had a biological cause, supporting the Hippocratic thought of the era. Heracles is a clear depiction of how fiction could link to reality, as epileptic citizens in the real world can commit crimes because of this illness, just as this brave man. Interestingly, epilepsy has always been associated with prominent political and cultural leaders, as Campanella stated in "The city of the sun":

This is a sign of great talent, wherefore Hercules, Socrates, Mohammed, Scotus, and Callimachus suffered from it.¹⁸

Despite the fact that it has been more than 2500 years since Greek mythology was at its peak, it is worth remembering its historical contribution to epilepsy, based on one of the greatest fictional heroes: Heracles.

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