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A Brief History of Epilepsy

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Review Article

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Abstract: Epilepsy throughout the pre modern time was considered to be a disease with a metaphysical basis. Numerous superstitions and deities were attributed to cause the condition. In the 19th century, when neuro science unfolded as a new field, different from psychiatry, the idea of epilepsy as a disorder of the brain became much more widely accepted. Majority of the advances in developed economies are of negligible or no relevance to the 80% of people with epilepsy who live in developing countries. For most of these patients, the antiquated supernatural views, social stigma and prejudice still prevail. Even in the developed world, the disorder is still shrouded in secrecy, and people prefer not to reveal or discuss their malady.
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INTRODUCTION

From the simplest of life in the form of a prokaryotic cell presumably first formed in the hydrothermal vents deep down in the oceans near the volcanically active tectonic plates to the humans eventually taking on the task of the creator by cloning Dolly, evolution has manifested its wonders many folds. Keeping within the confines of natural selection, human race could not have lived up to the mother nature's desire of seeing the fittest to survive hadn't it been for a marvelous pound of fat and flesh contained in its cranium. Despite its tight checks and balances, in Arthur Koestler words "evolution has wildly overshot the mark when it comes to the creation of human brain".

From our ancestors who eventually reached the summit of the food pyramid to our generations who plunged into the abyss of eternity a few decades back, we the humans have always raised questions about ourselves and this cosmos which has finally led us to a time where nature to its disliking has been striped to the cellular level and its x-files have been demystified. It was not an easy journey. Mythical, whimsical and impetuous thoughts and acts were stream lined along rational channels and eventually gave us the prowess to unearth relativity and defy aging. Of special interests are human ailments in which time testifies mankind's intellect and curiosity. Epilepsy is one of those maladies whose etiological and treatment advancements are synonymous with evolutionary enhancements in comprehending the nature of disease processes and up gradation of medical therapeutics. Formally a hallowed disease treated with exorcism, epilepsy in current times is much better understood and readily curable.

REVIEW

Epilepsy throughout the pre modern time was considered to be a disease with a metaphysical basis. Numerous superstitions and deities were attributed to cause the condition. The first recorded case of Epilepsy dates back around 2000 BC in a text written in Akkadian language where the disease was attributed due to a moon god and an exorcism was carried out to treat the condition [1].

Code of Hammurabi (1790 BC) a Babylon code of law allowed compensation on sold slaves who had epilepsy [1]. Edwin Smith Papyrus (1700 BC) an ancient medical text mentions about the callous practices which were prevalent in treatment of the disorder [1].

During 1067-1046 BC Sakikku another Babylonian text [2] elaborated Epilepsy more with its features, types, treatment and consequences (1] however still the prevalent belief surrounding the cause of Epilepsy was metaphysical thus they recommended spiritual remedies for the condition [2]. Atreya Punarvasu around 900 BC was a renowned scholar of Ayurveda described epilepsy to be a state of loss in consciousness which was later mentioned uptill 400 BC

in Ayurvedic text Charaka Samhita [3]. Ancient Greeks held a different credence, they thought of it as something divine associated with genius and as an "intangible possession" so the term "sacred disease" sprouted [1,4]. In Greek mythology Selene and Artemis were the moon goddesses whoever annoyed them was cursed with the disease [1].

In 5th century BC, Hippocrates through his work "On the sacred disease" refuted the superstitious basis for the disease. He considered it as a medical problem with origin in brain [1,2]. He also identified early age linked with poorer outcomes. Heredity roots to have some link in passing on the disease. He also described physical aspects of the disease and made note of social taboos linked to it [1]. He strongly disagreed with myths that were predominantly prevalent during that time. Grand mal, epilepsy was the termed derived from his work as he used the term "great disease" instead of the "sacred disease" for it [1]. His ideas remained mostly unacceptable during that time [2].

Morbus comitialis (disease of the assembly hall) was the term coined by the ancient romans who believed it to be a curse from the gods [5]. Ancient romans avoided the pottery used by epileptics there was a common practice of spitting on one's own chest to keep oneself protected against the disease [6]. Ancient physicians and Apuleius were of the opinion that lighting gagates will trigger a seizure for detecting epilepsy [7]. Sometimes a spinning potter's wheel was used for the same purpose as a reference to photosensitive epilepsy [8]. In most cultures around the world there was lack of social acceptance, stigma, superstion around the disease. People used to be shunned or imprisoned for carrying the disease as well [9]. It was till 17th Century that people believed in evil spirits [2]. In northern Italy, epilepsy was once traditionally known as Saint Valentine's malady [5]. In Salpêtrière, Jean Martin Charcot found Epilepsy patients side by side with those who were mentally insane, those who had chronic syphilis and criminals [9].

In the 19th century, when neuro science unfolded as a new field, different from psychiatry, the idea of epilepsy as a disorder of the brain became much more widely accepted. This helped to reduce the stigma associated with the disorder. In 1857, Sir Charles Locock introduced the first effective anti-epileptic drug named Bromide which was used extensively during the second half of the last century. Further, a hospital for the "paralyzed and epileptic" was set up in London in the year 1857. Simultaneously, a more humane solution to the social problems of epilepsy entailed the establishment of epilepsy "colonies" for care and employment. Some examples include Bielefeld-Bethel in Germany, Heemstede in Holland, Chalfont in England, Zurich in Switzerland, Dianalund in Denmark, and Sandvikain in Norway. In the 19th century, Hughlings Jackson, a London neurologist, laid the foundation of our modern understanding of the impaired functionality seen in epilepsy [10].

He defined seizures as a sudden brief electro-chemical discharge of energy in the brain, the type of seizure depending on the location and function of the area in the brain where discharge occurs. This was soon followed by discovery of the electrical excitability of brain cortex in both humans and animals by David Ferrier in London and Gustav Theodor Fritsch and Eduard Hitzig in Germany. In the year 1920s, Hans Berger, a psychiatrist working in Germany, developed the human electroencephalograph (EEG "brainwaves"). Its important application from the 1930s onwards was in the field of epilepsy. The EEG exhibited the presence of electrical discharges in the brain. It also demonstrated unique designs of brainwave discharges associated with different seizure types. The EEG played a key role to locate the site of seizure discharges and helped amplify the possibilities of neurosurgical treatments, which became much more accessible from the 1950s onwards in London, Montreal and Paris [10].

The top drugs for the management of epilepsy, during the first half of the 20th century, were phenobarbitone and phenytoin. Since the 1960s, anti-epileptic drug discovery has gained momentum, which could be attributed to a much greater understanding of the electrochemical activities of the brain, especially the excitatory and inhibitory neurotransmitters. In developed nations, in recent years, several new drugs have come on to the market. Fortunately, with advanced medicine, seizures can now be controlled in approximately three-quarters of newly-diagnosed children and adult patients. Another recent stimulus towards the understanding and management of epilepsy in the last few decades has been the developments in structural and functional neuroimaging, especially computer tomography (CT) scanning, magnetic resonance imaging (MRI) and MRI spectroscopy and positron emission tomography. Such state of the art techniques have helped display many of the more subtle brain lesions responsible for epilepsy. Any type of brain lesion (e.g. trauma, congenital, developmental, infection, vascular, tumor, degenerative) can lead to epilepsy in some patients. During the last few decades, there has been a special emphasis on the psychological and social needs and quality of life issues of people suffering from epilepsy, although progress is slow and services are still poor [10].

Majority of the advances in developed economies are of negligible or no relevance to the 80% of people with epilepsy who live in developing countries. For most of these patients, the antiquated supernatural views, social stigma and prejudice still prevail. Even in the developed world, the disorder is still shrouded in secrecy, and people prefer not to reveal or discuss their malady. Of the estimated 40 million

people in the world with epilepsy, 32 million have no access to treatment at all - either due to lack of service or, just as importantly, because epilepsy is not viewed as a medical condition or a treatable brain disorder. The International League against Epilepsy, which is professional organization operating throughout the world with chapters in 60 countries, was founded in 1909 and is growing rapidly.

The International Bureau for Epilepsy, the equivalent lay organization, was founded in 1962 and is also rapidly expanding, with 50 national chapters. In the year 1997, these two bodies joined hands with the World Health Organization in the Global Anti-Epilepsy Campaign aimed at improving prevention, treatment, care and services for those suffering from epilepsy and raising public awareness of the disease and its acceptability [10].

CONCLUSIONS

Epilepsy over the course of centuries remained a puzzle for medical science. The folklore that surrounded it still stays globally prevalent. Awareness campaigns to educate masses for early identification and adequate managment needs to be adressed globally.

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