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Integral Approach to the Management of the Patient with Epilepsy

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ABSTRACT

Epilepsy is a disease considered as old as humanity itself and is for some the second neurological disease. The most frequent age of onset is childhood and adolescence and there are multiple treatments established to date. It is a disease associated with the psychological and social sphere of the patients who suffer from it, with a consequent stigmatization and discrimination against them. It is considered, in turn, as a global public health problem, which requires an adequate response, since it is estimated that more than 50 million people suffer from this disease, with a higher incidence and prevalence at the extremes of life and in the developing countries and a mortality with several aspects to consider. Therefore, the authors try to address a comprehensive management approach, which includes the concerns that the doctor experiences when faced with a patient with a suspected diagnosis of epilepsy and involves first defining said criteria, what type of seizure/epilepsy, its etiology and the therapeutic conduct to follow. For this, the descriptors epilepsy, comprehensive management, positive and differential diagnosis, classification of seizures / epilepsy and general principles of treatment were included in the Academic Google. The Medline, Scielo, Scopus and Medscape databases were used.

INTRODUCTION

Epilepsy is considered as old as humanity itself and can occur in anyone without distinction of age, sex, race, social origin or geographical characteristics. It is one of the most frequent Central Nervous System (CNS) disorders and for some authors, the second neurological disease [1,2]. It is currently considered by the International League Against Epilepsy (ILAE) and the International Office for Epilepsy (IBE), as a disease and not a disorder [3,4]. Mankind's knowledge of this disease has been known to date back more than 3000 years. The most ancient cultures associated the origin of this disease with the intervention of demonic supernatural forces [1]. Hammurabi, in 1780 BC, as king of Babylon leaves the first known written record in

relation to epilepsy, in laws 148 and 278 of his legal code [5]. However, this knowledge about epilepsy, which was transmitted orally, like the entire knowledge system of ancient Mesopotamia, was compiled on the orders of the Babylonian king Adad-apla-iddina of the second dynasty of Isin between the years 1067 and 1046 BC forming part of one of the oldest medical treatises known as "Sakikku" which means "All Diseases". The Sakikku was the first known treatise on epilepsy in the history of mankind, and what could be considered as the first classification of epilepsy carried out by man [6,7]. Epilepsy was known by the name "Sacred Morbus" or "Sacred Disease" and "attacks" or epileptic seizures with the term "epilambaneim" which means "attack", "surprise", "seize", or "fall on oneself". itself¨ (which is why its manifestations provoked fear), from which derives the term through which this disease is currently known: Epilepsy [8,9]. Hippocrates in the V century BC, described it in his book "The Sacred Disease" and it is there, for the first time in the history of medicine, where it is mentioned that the cause of this disease was in the brain [3,10]. The most common age of onset is childhood and adolescence. However, as longevity on the planet increases, it has been seen that the incidence and prevalence of this disorder also increases, due to cerebrovascular diseases, brain tumors or dementia diseases, which are more frequent in the elderly [11]. The first treatments included everything from exorcism to the practice of bloodletting. However, scientific and modern therapy dates back to the 19th century with the accidental discovery of bromide salts. From then on, Phenobarbital and Phenytoin, as well as a variety of drugs, were incorporated into the therapeutic arsenal of this disease [12,13]. Different techniques and alternative methods have also been included more recently in its management [14]. It is to mean that this disease is fully associated with the psychological and social sphere of the patients who suffer from it. People with hidden disabilities, such as epilepsy, are among the most vulnerable in any society. This can be attributed in part to the disease itself, but the particular stigma associated with it carries with it a susceptibility to the sufferer [12]. Stigmatization leads to discrimination, and people with epilepsy experience discriminatory behavior in many areas of life and depending on different cultures [15]. In our consideration, due to the complexity of this pathology, due to the social involvement it presents and its psychobiological and even economic consequences, the patient with epilepsy must be managed with a multidisciplinary nature [16]. For this reason, we intend in this context to describe from a scholastic point of view, the aspects to consider when we are facing a patient with suspected or diagnosed epilepsy, in order to guide them properly and minimize the devastating aspects of this disease. To elaborate it, the Google Academic search engine and the descriptors epilepsy, comprehensive management, positive and differential diagnosis, classification of seizures and epilepsy, general principles of treatment were used. The Medline, Scielo, Scopus and Medscape databases were used.

EPIDEMIOLOGY

Epilepsy is a global public health problem that requires an adequate response. It is a clinical condition with self-referral in up to 50% of cases. According to reports from the World Health Organization (WHO), an estimated 50 to 69 million people suffer from this disease, the majority living in developing countries, where the quality of life is worse and the incidence of infections of the nervous system Central Nervous System (CNS) is higher [17,18]. Many more people, however, - an estimated 200,000,000 - are also affected by this disorder, as it is the family members and friends who live with these patients. It can be asserted that epilepsy affects 1-2% of the population. Up to 70% of people with this disease could lead normal lives if properly treated [19]. The vast majority of them suffer from mesial temporal lobe epilepsy, which is the most common epileptic syndrome [20]. This is also the one that presents the worst response to treatment with antiepileptic drugs, thus constituting the most important cause of disability that affects the lives of these patients in all spheres, as well as that of those who are responsible for them [21,22]. According to PAHO studies, there are two million new cases that occur in the world each year. The annual incidence of unprovoked seizures is 33-198 per 100,000 population / year [19], and the incidence of epilepsy is 23 to 190 per 100,000 population / year, this being higher in children and even more variable, 25 to 840 per 100,000 per year. Most of the differences are explained by the various populations at risk and by the study design [19,23]. The incidence of the disease, in turn, is higher in developing countries than in industrialized countries and is up to 190 per 100,000 population [21,24]. Also, the prevalence

of active epilepsy is generally lower in industrialized countries than in developing countries, which may reflect a lower prevalence of risk of selected factors (infections and trauma) [25,26]. In industrialized countries, the prevalence of epilepsy is lowest in childhood and tends to increase thereafter, with a higher rate in the elderly [27,28]. It should also be considered that this disease can be the cause of death, which can cast a shadow on the patient's prognosis [19]. It can reduce life expectancy by 10 years in patients with symptomatic epilepsy and by 2 years in those with epilepsy of genetic etiology [29]. International statistics show annual mortality rates of 2.1 per 100,000 inhabitants per year, varying from 1 to 8 in different countries [30]. Based on current data, it appears that the mortality rate from epilepsy in developing countries is, in turn, generally higher than that in developed countries [31]. Causes of death must be identified and action taken, including treatment and education, to avoid preventable deaths. Death associated with epilepsy can be classified into three categories: that caused directly by seizures, that associated indirectly or in part with epilepsy, such as suicide, which is associated with 5 percent of all deaths from epilepsy, and that which It is due to other factors, for example, the causes of the disease or its complications [29,32].

However, several aspects may be related to mortality and should be mentioned: [33-36]

• Seizures themselves can be the cause of death, either directly as in prolonged status epilepticus or indirectly because of the increased risk of death by accident, especially drowning.

• Some of the risk factors for epilepsy (eg, brain tumors, cerebrovascular disease, traumatic brain injury) are associated with increased mortality if epilepsy is present. Post-stroke epilepsy is associated with high mortality in young patients.

• An increase in mortality has been reported in patients with intellectual disabilities.

• There is an increased risk of Sudden Unexplained Death in Epilepsy (SUDEP), with an estimated incidence of 1.8 per 1000 patients / year.

• It is estimated that sudden death is responsible for approximately 7000 deaths each year in the United States and Europe and is considered the second neurological cause of all potential losses, after stroke.

• Long-term use of Antiepileptic Drugs (AEDs) has been linked to an increased incidence of malignancies and osteoporosis, potentially affecting long-term mortality rates in people with epilepsy, especially those with epilepsy. younger adults (ages 15 to 49).

All these elements make the management of the patient with epilepsy require a comprehensive approach.

Concerns with a patient with suspected epilepsy

There are multiple questions that the doctor experiences when faced with a patient with a suspected diagnosis of epilepsy, but the most important are the following:

• Are we in front of a patient with epilepsy?

• What type of seizure / epilepsy does the patient have?

• What is the etiology of epilepsy?

• What therapeutic behavior should we follow?

Are we in front of a patient with epilepsy?

This is one of the most difficult dilemmas faced by the physician, in medical practice, when trying to discern the presence or absence of epilepsy in a patient. In our consideration, it is the first problem that the doctor must discern in these cases. This disease has had different meanings and concepts, but for the purposes of this review, we will refer to the last considerations [37-40]. Recently Fisher et al. [4] has been published by a group of experts from the ILAE, the operative (practical) clinical definition of epilepsy:

Epilepsy is considered by consensus to be a brain disease that is defined by any of the following circumstances:

1. At least two unprovoked (or reflex) seizures> 24 hours apart.

2. An unprovoked (or reflex) seizure and a probability of presenting new seizures during the next 10 years similar to the general risk of recurrence (at least 60%) after the appearance of two unprovoked seizures.

3. Diagnosis of an epilepsy syndrome.

According to these criteria, a patient who has suffered a seizure presents epilepsy and whose brain, for whatever reason, shows a pathological and continued tendency to suffer recurrent seizures. This trend can be imagined as a pathological reduction of the seizure threshold compared to people who do not have the disease [4]. If we take into account the definitions described, the differentiation of epileptic seizures and pseudo-seizures is of significant

importance because it can fail to recognize and therefore not establish treatment of the true pathology, the error in the diagnosis of epilepsy can lead to consequent stigma social and the unnecessary risk of using antiepileptic drugs, can lead to various unnecessary adverse reactions [41,42]. In the positive diagnosis, the history of the seizures, the general physical and neurological examination and the complementary investigations are taken into account [43]. In our consideration, the interrogation with an adequate schedule of the seizures reported by the patient and the family member is of relevant importance and is the greatest bulwark available to the physician to distinguish between an epileptic seizure and one of another type.

The first clinical symptoms frequently provide the most information regarding the zone of ictal and epileptogenic initiation as the initial symptomatogenic zone [44]. The proper questioning depends on whether it can be defined, which neurological and non-neurological alterations can be confused with epilepsy. The physician must take into consideration that non-epileptic paroxysmal events are frequently found in neurological practice, mainly in pediatrics, and can be misdiagnosed as epileptic seizures. For this reason, the correct diagnosis is important, since these do not require antiepileptic treatment, in addition they may be due to another etiology that -as it is not identified- does not receive adequate therapy [45]. It becomes even more difficult if, in addition, epileptic seizures can be associated with these events and both etiologies coincide in the same patient and be a cause attributable to the failure of antiepileptic treatment. We cannot fail to make the consideration that video-EEG monitoring may sometimes be necessary. Among these, non-epileptic seizures of the psychogenic type are of significant importance, in which most studies document that the prevalence takes place in seizure monitoring units. It is considered that approximately 20-40% of patients admitted for evaluation are diagnosed with psychogenic crises [46].

General physical and neurological examination: The general examination should include the examination of the skin, vision and eyes, as well as the visceral examination (cardiovascular: arrhythmias), in addition to a brief Evaluation of Cognitive, Social and behavioral functioning [47]. The neurological examination should take into account the time interval between the last epileptic seizure, specifying elements such as Todd's hemiparesis, transient aphasic symptoms, and these should be separated from postictal confusion. The main goal is to determine if the symptoms or signs are permanent. In the intercritical period, the examination can be normal, in most patients.

Complementary investigations: Laboratory procedures (blood and urine), Electrocardiogram (ECG), Electroencephalogram (EEG), brain imaging, serum monitoring of Antiepileptic Drugs (AED) and others such as metabolic studies or toxicological investigations, analysis of Cerebrospinal Fluid (CSF) and Molecular genetic testing should be appropriately prioritized and adapted to the patient's clinic [12,48].

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis of transitory events, it is not only necessary to specify that they are epileptic seizures, but also to distinguish between provoked epileptic seizures and a chronic epileptic condition [49]. Common disorders and even normal phenomena can mimic seizures and, conversely, certain types of seizures can mimic the symptoms of other diseases [47]. The differential diagnosis includes all causes of episodic impairment of consciousness, aberrations of mental function, falls, sensory / motor phenomena, and generalized seizure movements, which are common presenting symptoms of seizures [50]. In any case, the importance of questioning should be emphasized, with a view to trying to define the nature of the event we are analyzing, not introducing antiepileptic drugs unnecessarily, avoiding adverse reactions, and adequately managing the various possible etiologies [51]. It is necessary neither to consider an epileptic seizure as a non-epileptic paroxysmal event, nor this as a seizure event.

What kind of seizure / epilepsy does the patient have?

After being supposedly sure that we are dealing with a patient with epilepsy, it is the physician's obligation to define the type of seizure he suffers, the type of epilepsy and, if possible, the syndrome.

Throughout its 3 to 4 millennia recorded history, epilepsy has always been defined by its most dramatic symptoms, including falling, motor activity, or loss of consciousness [48]. More than a century ago, there has been a certain semantic confusion and it is debated whether to call the various paroxysms, seizures, epileptic seizures or epilepsy. Since the mid-19th century a

great debate has continued about whether recurrent seizures or epilepsy should be viewed as a separable symptom of the underlying brain disease or as one or more idiopathic diseases or syndromes, with an inherent relationship to age and its history. natural; or actually viewed as both a symptom or a disease [52]. The history of classification has been based largely on insightful observations and expert opinion. Following the invention of the EEG by Hans Berger in 1929, Frederic Anderws Gibbs and Erna Leonhardt Gibbs (1937) classified seizures based on their electro-clinical presentation [52]. Based on his work with Gibbs and Gibbs, William G. Lennox (1960) also developed an electro-clinical classification in his book Epilepsy and Related Disorders. The first ILAE classification of seizures was published by Henry Gastaut [53]. In 1981, 12 years later, a Committee of the International League Against Epilepsy (ILAE) led by Fritz E. Dreifuss revised and standardized the clinical and electroencephalographic classification of epileptic seizures and later, in 1985, the classification proposal was published of epilepsies and epileptic syndromes, being reviewed in 1989 [54]. As well as epileptic seizures, the syndromes were divided into focal, generalized and indeterminate, and in terms of etiology into idiopathic, cryptogenic, and symptomatic. (Classification of Epileptic Syndromes, 1989) [55]. Since 1997, the ILAE Classification and Terminology Commissions, chaired by Pete Engel (1997 to 2005) and Anne Berg (2005-2009) have made significant efforts to achieve better and internationally uniform classifications as reflected in their 2001 reports, 2006, and 2010 [56-60]. In 2013, a new report from the ILAE Commission on the classification and terminology of Epilepsies was presented [61,62] and subsequently published online. More recently, the Operational Classification of Crisis Types (ILAE) has been published, with an operational nature (practice) and is based on the 1981 Classification, extended in 2010. The classification table is columnar and certain Types of seizures can be focal, generalized, or of unknown onset. This new classification does not represent a fundamental change, but it allows greater flexibility and transparency when naming the types of crises [63]. In our opinion, like other authors, we consider that we should continue to use the previous ILAE Classifications with some modifications until new objectives are achieved. In this modern era of harmonization, the amount of disharmonization that exists in relation to the classification of this disease is surprising, so it can be considered an unfinished topic.

What is the etiology of epilepsy?

In our consideration, after the doctor knows that he is dealing with a patient with epilepsy and has been able to classify him, he should define, as far as possible, the etiology. In this regard, clinical neuropathology remains an important discipline in the future of epileptology and brain research, especially in the area of molecular genetics. It helps to understand the stages of epileptogenesis and the factors responsible for the progressive nature of the disease [64]. Among the causes of this disease must be considered multifactorial elements. The New report presented by the ILAE Commission on the Classification and Terminology of Epilepsies in 2013, subdivides the etiology into a) genetics; b) structural; c) metabolic; d) immunological: e) infectious; f) unknown [60,65,66]. We must also take into consideration the close relationship of the different age groups with the etiological groups of epileptic seizures, which requires a careful analysis.

What therapeutic behavior should we follow?

After making the correct diagnosis of a patient, as well as, after classifying him and defining his etiology as far as possible, we must ask ourselves the behavior to follow. But before prescribing a specific antiepileptic drug, the doctor must take into account a series of additional aspects, which allows the best result for the patient, regardless of the drug or other therapy that is chosen [67]. However, before getting into the complexities of treatment strategies, we need to make a brief reminder about the accuracy of the patient's diagnosis. The correct diagnosis is, after all, the foundation on which therapy is based. An improper diagnosis is likely to lead to insufficient and potentially harmful treatment [68]. So, how are we going to make a correct diagnosis of the patient with the disease? We can only do this by recognizing that multiple levels of diagnosis are present, and these must be identified in each patient, which have already been discussed previously: etiological diagnosis, seizures and epileptic syndrome (if possible) [69]. Once the patient's diagnosis is certain, what are the treatment issues that must be considered to optimize the outcome for the individual? For this, it is proposed to consider the treatment of epilepsies in four large groups: prophylactic /

preventive, pharmacological, non-pharmacological and psychological and psychiatric.

PROPHYLACTIC / PREVENTIVE TREATMENT

There are many discrepancies when it comes to seizure prophylaxis. Many authors consider that, if seizure activity occurs, prompt and effective treatment should be instituted, while others suggest prophylaxis in neurosurgical interventions, head trauma, brain tumor or metastasis, and cerebrovascular disease [23]. The main focus of care for epilepsy patients is the prevention of further seizures, which can, after all, lead to additional morbidity or even mortality.

Currently, epilepsy tends to be treated once the condition is established, and little is done in terms of prevention. This may be possible in patients who have received head trauma and have suffered CNS infections, but improvement of environmental sanitation and health education would require intense efforts [70,71]. Most cases of epilepsy in the current state of knowledge cannot be prevented, and this is particularly true for temporal lobe epilepsy, but, as research improves our understanding of genetics and structural abnormalities of the brain, the forecast may change [20].

PHARMACOTHERAPY

It should be kept in mind when analyzing this issue that therapy in this disease is still suppressive, symptomatic and not curative. Clinical evidence also indicates that interictal activity is not affected by levels of antiepileptic drugs, which are effective in stopping seizures [72]. Beginning in 1909, the year of the founding of the International League Against Epilepsy (ILAE), modern approaches to medicinal epilepsy therapy were formulated and many novel drugs were introduced [44]. It was the studies of Tracy Putnam (1894-1975) and H. Houston Merritt (1902-1978) that marked the end of the empirical use of substances, in search of new antiepileptic drugs [73,74]. The introduction of the different drugs / procedures in clinical practice is described in each period: 1850 Bromides / Chloral hydrate / Borax; 1910 Phenobarbital; 1930 Ketogenic Diet; 1938 Phenytoin; 1941 Acetazolamide; 1944 Trimethadione; 1950 Adrenocorticotropic hormone (ACTH); 1954 Primidone; 1957 Metosuximide; 1958 Ethosuximide; 1962 Sultiamo; 1963 Diazepán; 1965 Carbamazepine; 1967 Valproic Acid; 1968 Clonazepan; 1975 Clobazan [75-78]. Drugs introduced between 1989 and 1994: Vigabatrin (1989), Lamotrigine (1990), Oxcarbazepine (1990), Felbamate (1993) and Gabapentin (1994) [79]. Drugs introduced between 1995 and 2008: Topiramate (1995), Tiagabine (1996), Levetiracetam (1999), Zonisamide (2000), Pregabalin (2004), Stiripentol (2007), Rufinamide (2007), Lacosamide (2008) [80]. Other antiepileptic drugs that are in active development: Retigabine, Eslicarbazepine, Fluorofelbamate, Remacemide, Valprocemide, Propylsopropyl Acetamide. Brivaracetam, Seletracetam, Carisbamate, Ezogabine, Ganaloxone, TPerampanel, T-2000, 2-deoxy-D-glucose, Huperzine A, ICSC 700-008, NAX-5055, NS1209, Tonabersat and YKP3089.27-32 [81-86]. Other substances are in the experimental phase [77,87,88]. There is recent public interest and debate about the potential use of marijuana and one of its active substances, cannabidiol (CBD) (non-psychotropic compound) in the treatment of refractory seizures and catastrophic epilepsies such as Dravet Syndrome, however, human data are limited, and do not allow conclusions to be drawn [89,90]. Mention is also made of Intravenous Immunoglobulin (IVIG), composed of products purified from human blood and whose mechanism of action in epilepsy seems to be mainly immunological [91,92]. It is our criterion that we should not be satisfied with the advances in epileptology today and we must continue in the search for an effective therapy [93]. There is a clear need to insist on the study of conventional animal models and to explore other fields that include molecular research, in which it is achieved that neuronal hyperexcitability can be reduced and that, in addition, components with antiepileptogenic and neuroprotective properties are identified (twenty). Recent research shows that genetic differences in patients may influence response to treatment [88]. Several novel approaches to the treatment of epilepsy are also being studied, including the transfer of different genes and stem cell transplantation. Furthermore, multiple therapeutic targets are described, including neuropeptides, neurotrophic factors, and inhibitory neurotransmitters [94]. For this, it is important to take advantage of the results that are continually being made available to the scientific community thanks to the synergy of basic and clinical multidisciplinary research. This means that the clinical applicability of the neurobiological results must be evaluated, so that the new information can be translated into diagnostic and therapeutic terms, and consequently the

guidelines and recommendations are produced [95,96]. Important actions have been carried out by the International League Against Epilepsy (ILAE) through its various commissions (in genetics, neurobiology, psychobiology, epidemiology, therapeutic strategies, diagnostic methods and health care policy) to assist developing countries in establishing research and projects geared towards their specific problems. In the therapeutic management of the patient with epilepsy, the general aspects of antiepileptic treatment should be taken into account, including the risk of recurrence, when to start treatment after a simple seizure, the initiation and stopping of treatment, the predictive factors of relapse and common precipitating factors of seizures [97-99].

NON-PHARMACOLOGICAL TREATMENT

Non-pharmacological treatment is closely linked to refractory epilepsy (or difficult to control or drug resistant), where there is a risk of progressive increase in cognitive impairment, behavior changes, psychosocial dysfunction, psychiatric disorders and mortality and for this reason, the use of alternative treatments, other than surgery [100]. There is evidence that this procedure was already carried out during the Neolithic period and probably, during the Mesolithic, in 8000 BC. for curative purposes and it is known that the ancient Egyptians made trepanations to treat the "evil of the gods". However, in the modern era Victor Horsley is recognized as the first to publish his experience in the surgical treatment of epilepsy in 1886 [48]. In the 1930s, the works of Penfield and Jasper in Montreal took up this field again, introducing electrocorticography, after the introduction of EEG at the end of that decade, which allowed a better localization of the area to be resected. Bancaud and Talairach in Paris, developed stereoencephalography or recording with deep electrodes in the 1960s, with a resurgence of interest in surgical therapy and in the 1970s, video-EEG was introduced, of crucial importance in pre-surgical evaluation [12,101]. The first telemetric recording with deep electrodes was carried out by Paul H. Crandall, being a fundamental element in this evaluation in the last 30 years. Afterwards, a stage of decline occurred, as the expected results were not observed in surgery, more because of the inadequate selection of the patient than because of the technique itself [48]. With the advent of microneurosurgery, the new concepts associated with epileptogenesis, modern Computerized Axial Tomography (CT) images, Positron Emission Tomography (PET) and especially Nuclear Magnetic Resonance (NMR), have increased dramatically. interest in epilepsy surgery was notable since the 90s [102]. It is the opinion of the authors dedicated to this topic, that the surgical treatment of epilepsy has offered relief for countless patients, as confirmed by many neurosurgery centers around the world. As a therapy to consider, it may be appropriate in selected cases. However, if the diagnosis of epilepsy is established and there is no surgical criterion, treatment with antiepileptic drugs (AED) should be optimized [48]. Today there are multiple alternatives and treatment options for people with drug-resistant epilepsy, unleashing epilepsy surgery. The surgical treatment modalities that exist for these patients are resective surgeries, disconnection surgery, neuromodulation (includes invasive and non-invasive therapies), radiosurgery, laser ablation, and vagus nerve stimulation [103-105]. There are other options to consider when the patient is not a candidate for any type of surgical modality, namely the ketogenic diet, the Atkins diet and non-invasive brain stimulation [106-109].

PSYCHOLOGICAL AND PSYCHIATRIC CARE

This is an aspect in the comprehensive management of patients with epilepsy, which, if not taken into account, the results would not be encouraging, since people who suffer from this disease experience discriminatory behavior in many areas of life, with psychiatric comorbidity associated, all of which implies that it is considered as a complex pathology, with social, psychobiological and economic consequences [110,111]. It can significantly compromise the quality of life of those who suffer from it, since in many cases it affects, although in a variable way; emotional state, behavior, social and cognitive functioning. Indeed, there is a general consensus that the incidence of neurobehavioral disorders is higher in patients with epilepsy than in the general population, although some authors consider that this is due to errors in the sample and inadequate control groups [112-115]. The presentation of psychotic disorders, bipolar affective disorders, depression, mania, suicidal behaviors, and anxiety and personality disorders have been described in patients with epilepsy. All this is feasible to present in patients with refractory epilepsy with surgical criteria or not [116]. The incidence of psychiatric pathology in these patients implies the need to take this aspect into account.

HANDLING IN SPECIAL CONDITIONS

There are also special conditions that must be taken into consideration in the management of patients with epilepsy and are the presence of the disease in the elderly patient, in women, in its different stages, (including pregnancy, childbirth and lactation) in the children and adolescents, as well as in patients with liver and kidney failure, which should attract the attention of the physician, due to the particularities and care they imply [117-123]. Finally, it must be remembered that we doctors treat individual people, not a disease, or, as Hippocrates is attributed: "It is more important to know what kind of person has a disease than to know what kind of disease a person has". For this reason, it is important to bear in mind that the management of the patient with epilepsy must be judicious, multifactorial and individualized.

CONCLUSIONS

1. Epilepsy is one of the most common neurological disorders in the world, which occurs regardless of age, social or racial class, as well as national or geographic borders.

2. Worldwide, more than 50 million people suffer from epilepsy and around 85% of this population lives in developing countries.

3. The worldwide incidence, prevalence and mortality of epilepsy are not uniform and depend on several factors, including but not limited to the structure of the local population, basic knowledge of the disease, socio-economic and cultural background, the presence of environmental risk factors and the distribution of financial infrastructure and material resources.

4. The stigmatization of the patient with epilepsy leads to discrimination, and people experience discriminatory behavior in many areas of life and depending on different cultures.

5. Due to the complexity of this pathology, due to the social involvement it presents and its psychobiological and even.

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