



**PERSONALITY DISORDERS
AND BEHAVIOR-RELATED
DISEASES, DAMAGE AND
DYSFUNCTION OF THE BRAIN**

A stylized, glowing blue brain is shown in profile, facing right. The brain is rendered with a translucent, wireframe-like texture, and bright blue and white electrical energy pulses emanate from various points across its surface, particularly concentrated in the central and posterior regions. The background is dark, making the glowing brain stand out. The word "EPILEPSY" is overlaid in the center of the brain in a bold, purple, sans-serif font.

EPILEPSY

Epilepsy (definition)

chronic brain disorder characterized by repeated convulsive seizures or not, as well as their equivalents, resulting from excessive neuronal discharges and are accompanied by a variety of neurological and psychopathological symptoms.

Epidemiology of Seizures and Epilepsy

- **Seizures**

- **Incidence: approximately 80/100,000 per year**
- **Lifetime prevalence: 9%
(1/3 - febrile convulsions)**

- **Epilepsy**

- **Incidence: approximately 30-57/100,000 per year**
- **Lifetime incidence: 2-4%.**
- **Point prevalence: 0.5-1%.**
- **Increased in underdeveloped countries and in lower socioeconomic groups.**

Relationship Between Age and Epilepsy Etiology.

- **Infancy/early childhood - most common congenital/prenatal CNS insults.**
- **Late childhood/early adulthood - most common idiopathic/genetic.**
- **Adult/elderly - most symptomatic (i.e. trauma, ischemia, tumors, hemorrhage, degenerative diseases).**

ILAE Classification of Seizures.

- **Partial (Focal) Seizures:**
 - Arise in a limited number of cortical neurons within one hemisphere.
- **Generalized Seizures:**
 - Appear to arise simultaneously in both hemispheres.
- **Unclassifiable Seizures**

Partial Seizures

- Simple - consciousness preserved.
- Complex - some impairment of consciousness.
- Secondary generalized - development of generalized tonic-clonic activity.

Simple Partial Seizures: Sub classification

- **With motor symptoms/signs (e.g. Jacksonian).**
- **With somatosensory or special sensory symptoms (hallucinations/illusions).**
- **With autonomic symptoms/signs.**
- **With psychic symptoms.**

Partial/Generalized seizures – Sub classification

- ***Idiopathic*** - Underlying brain is structurally and functionally normal.
 - Usually onset during childhood/teenage and may remit.
 - Usually respond well to medication.
 - Likely have a genetic basis - ion channels.
- ***Symptomatic*** - Seizures result from some identifiable structural/functional brain abnormality.
 - Uncommonly remit, and often incompletely controlled with medication.
- ***Cryptogenic*** - Presumed to be symptomatic.

Complex Partial Seizures

- **Impaired consciousness**
 - **Clinical manifestations vary with site of origin and degree of spread**
 - **Presence and nature of aura**
 - **Automatisms (oral, motor, vocal, complex)**
- **Other motor activity**
- **Duration (15 sec.—3 min.)**

Generalized Tonic-Clonic Seizures

- ***Aura***
- ***Tonic Phase –***
 - Sudden onset LOC with generalized muscle rigidity with limb flexion/extension.
 - Often initial “tonic” cry.
 - Lasts approximately 30 sec.
- ***Clonic Phase –***
 - Generalized rhythmic jerking, gradually decreasing in frequency.
- ***Post-ictal –***
 - Stupor, confusion/agitation, lethargy.

Secondarily Generalized Seizures

- **Assumed or observed to begin as simple and/or complex partial seizures**
- **Variable symmetry, intensity, and duration of tonic (stiffening) and clonic (jerking) phases**
- **Usual duration 30-120 sec.**
- **Post-ictal confusion, somnolence, with or without transient focal deficit**

Absence Seizures

- **Brief (3-20 sec.) episodes of staring with unresponsiveness and amnesia.**
 - Sudden onset and offset with no post-ictal confusion.
 - Provoked by hyperventilation.
- **Usually begin ages 4 - 14 years and resolve by 18 years.**
 - May persist into adulthood - especially women.
- **EEG - "3 Hz spike & wave".**
 - Result from abnormal, hyper synchronous thalamo-cortical activity.

SYMPTOMS OF EPILEPTIC SEIZURES

- **outbreak**
- **short duration (from fractions of a second to 10 minutes)**
- **spontaneous termination**
- **stereotype**
- **identity at this point in the disease**
- **complete amnesia surrounding events**

NON-CONVULSIVE PAROXYSMS

- **Aura - short-term (a few seconds) the beginning of the attack in the form of dizziness, which occur when senestopaticheskie, psychosensory, depersonalizatsionnye, affective, hallucinatory disorders that remain in the patient's memory, while going on around is not perceived.**
- **Twilight disorders of consciousness (including ambulatory automatism) - untargeted or automated actions when complete detachment from the outside.**
- **Specific states of consciousness similar to the oneiric confusion, often with fantastic grezopodobnym delirium.**

NON-CONVULSIVE PAROXYSMS

- **Affective paroxysms.**
- **a) dysphoria - malice, sadness, aggression against others and himself.**
- **b) depression in Vol. h. with impulsive drives (penchant, posiomania).**
- **c) cyclothymic mood disorders which is by sudden onset and an equally sudden disappearance.**
- **The cataleptic paroxysms of sudden, lightning falling tone muscles of the body.**

CHANGES IN PERSONALITY AND BEHAVIOR

- Specific personality changes are a consequence of compensatory mechanisms of memory:
 - - Stiffness,
 - - Slowness of mental processes,
 - - A tendency to get stuck on details, thinking thoroughness
 - affective viscosity
 - Pedantry
- Not specific - sharpening and personality decompensation typological features:
 - - Exaggerated courtesy, reaching to the sweetness, obsequiousness,
 - - Tenderness, as well as the combination of high sensitivity,
 - - Vulnerability to the brutality, malice, malevolence,
 - - Hysterical disorders, etc.

EPILEPTIC PSYCHOSIS

- **1. Acute**
- **a) a dimming of consciousness (Twilight and oneiric state)**
- **b) without clouding of consciousness (affective psychoses)**
- **- depression**
- **- mania**
- **- paranioid**
- **2. Chronic**
- **- paranoid**
- **- Hallucinatory-paranoid**
- **- paraphrenic**
- **- Catatonic psychosis.**

PARTIAL AUTONOMIC-VISCERAL ATTACKS

- Epigastric seizures - discomfort in the epigastric region, in the area of the navel pain, rumbling in the stomach, urging to stool;
- Cardiac seizures - compression, compression, distension of the heart, fluctuating blood pressure, heart rhythm disturbances;
- Respiratory seizures - a sense of suffocation, breathing rhythm with periods of apnea, the compression in the neck, with tonic muscle tension;
- Vasomotor seizures - hot flashes, chills, fever, thirst, polyuria, hyperthermia, sweating, numerous algic symptoms.
- Orgasmic seizures - paroxysmal sexual paroxysms (mostly women), characterized by a pleasant sensation of heat in the abdomen, increasing sexual arousal, orgasm in passing,

IDEATORNOY SEIZURES

- **1. Abnormal amplification ideatornoy processes in the form of the sudden appearance of involuntary thoughts not related in content to the previous mental activity ("whirlwind of thoughts", "alien thought", "double-think").**
- **2. Attenuation or cessation of thought processes ("empty head", "stop thinking", "arrest of speech", "cleavage of thinking from speech").**

EMOTIONAL-AFFECTIVE SEIZURES

- **In the form of psycho-vegetative crises with prevalence of anxiety disorders with paroxysmal unmotivated fear arises, painful sensation of discomfort, foreboding of death.**
- **Ecstatic (orgasmic) attacks with feelings of happiness, delight, bliss.**

ILLUSORY SEIZURES

- 1. Attacks metamorphopsia - changing the shape, size, arrangement of surrounding objects, accompanied by vestibular disorders,
- 2. Breakdown "body schema" - increasing experience, shortening, curvature of the parts of the body, around the axis of rotation of the body
- 3. Autopsihicheskaya depersonalization - the experience of the unreality of his 'I', the feeling of barriers between themselves and the outside world,
- 4. Derealizatsionnye paroxysms - a feeling of unreality, unnatural, surround, loss of meaning, the emptiness of the outside world.

HALLUCINATORY SEIZURES

- 1. Olfactory hallucinations - paroxysmal sense of smell as a clear and undifferentiated odors.
- 2. Taste hallucinations - unpleasant taste in your mouth
- 3. Auditory hallucinations - "voice" threatening, commenting, peremptory character.
- 4. Visual hallucinations - elementary - flashes of bright light; Panoramic - changing paintings, plot dynamics.

ORGANIC EPILEPTICUS (CONCENTRIC), DEMENTIA

- **1. Deterioration of the ability to remember**
- **2. Stiff mental processes with the progressive weakening of cognitive abilities**
- **3. Viscosity - loss of the ability to separate the essential from the inessential**
- **4. Increasing the narrowness of judgment**
- **5. To reduce the combinatorial capacity**

ADDITIONAL METHODS OF DIAGNOSIS OF EPILEPSY

- **1. Electroencephalography (including functional loads)**
 - sharp waves
 - crest wave (spike) peak-wave (spike) - slow wave - are found in 15-28% of all patients with epilepsy
 - - Occur in 30-34% of patients without epilepsy clinic.
- **2. Magnetic resonance imaging (MRI) is indicated for all patients with epilepsy but no doubt cases with idiopathic epilepsy;**
- **3. Computed tomography (CT) - is now recognized as adequate for the detection of brain tumors;**
- **4. Positron Emission Tomography (PET)**

BASIC PRINCIPLES OF TREATMENT

- **When the diagnosis of epilepsy should begin treatment immediately,**
- **Preparations are selected in accordance with the nature of the attacks and the characteristics of the disease.**
- **Doses depend on the frequency and severity of seizures, the age, body weight of the patient and individual tolerability.**
- **Treatment started at an average dose, if necessary gradually increase the dose until the maximum therapeutic (total cessation, significant reduction in the incidence of seizures) or toxic effect.**

BASIC PRINCIPLES OF TREATMENT

- **At positive results the patient should take the medicine on a daily basis, regularly and continuously for 5 years.**
- **Transition replacement or other medication, if needed, is carried out by parts in the equivalent dose (sliding exchange).**
- **Reducing the dose much during the year, under the control of the EEG.**
- **Regular monitoring of the skin, lymph nodes, liver, spleen, neurological status. Control of blood and urine tests every 3 - 6 months.**

THE MAIN INDICATIONS FOR THE REPLACEMENT OF THE ANTIEPILEPTIC DRUG

- **The lack of therapeutic effect in a given AED.**
- **Individual intolerance of AED.**
- **The teratogenic effect of AEDs in women who want to continue the pregnancy.**
- **Toxic (side) effects**
- **Prohibitive cost to the patient AED.**

BASIC DRUG OF TREATMENT

PARTIAL SEIZURES

- **Drug of choice:**
- **Carbamazepine (Tegretol, finlepsin, zeptol)**
- **Oxcarbazepine (Trileptal)**
- **Lamotrigine (lamictal)**
- **Levetiracetam (Keppra)**

GENERALIZED SEIZURES

- **Drug of choice:**
- **Valproate (Depakine, Konvuleks, konvulsofin, enkorat)**
- **Lamotrigine (lamictal)**
- **Topiramate (Topamax)**
- **Levetiracetam (Keppra)**

SITUATIONS THAT DO NOT REQUIRE THE USE OF AEDs

A single seizure during the year

- Uncertainty about the nature of epileptic seizures;
- Some idiopathic benign form of epilepsy;
- The presence of EEG changes in the absence of clinical manifestations of the disease;
- Very rare recurrent seizures (up to 1 year), do not create problems for the patient;
- Reflex (stimulus-dependent seizures), provoked by triggers, which can be avoided;
- Simple febrile seizures occurring in children from 3 months to 5 years, accompanied by increased temperature (. Tend to repeat the 1/3 of all children at risk of developing epilepsy is less than 4%);

STATUS EPILEPTICUS!

Repeated seizures, or seizures after which the patient does not recover consciousness (for 30 minutes).

Terminal condition requiring resuscitation!

Treatment:

1. Introduction of benzodiazepines with short half-life period (diazepam, relanium) / **only intramuscular !!!**
2. In case of failure: 1-2 stage of surgical anesthesia in the conditions of intensive care unit
3. In case of failure: cerebrospinal puncture with breeding 50-70ml liquor to reduce intracranial pressure.

A digital wireframe head with a glowing brain and circuit patterns in the background. The head is rendered in a blue wireframe style, with a bright, glowing light emanating from the brain area. The background is dark blue with intricate circuit patterns and glowing lines.

**THANK YOU FOR
ATTENTION!**