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Study of epilepsy and alzheimer's disease: Causes and methods of finding brain disease

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Epilepsy has no identifiable cause in about half the people with the condition. In the other half, the condition may be traced to various factors, including, genetic influence. Some types of epilepsy, which are categorized by the type of seizure you experience or the part of the brain that is affected, run in families. In these cases, it is likely that there is a genetic influence. Researchers have linked some types of epilepsy to specific genes, but for most people, genes are only part of the cause of epilepsy. Certain genes may make a person more sensitive to environmental conditions that trigger seizures. Head Trauma: Head trauma as a result of a car accident or other traumatic injury can cause epilepsy. Brain conditions: Brain conditions that cause damage to the brain, such as brain tumors or strokes, can cause epilepsy. Stroke is a leading cause of epilepsy in adults older than age 35. Infectious diseases: Infectious diseases such as meningitis, AIDS and viral encephalitis, can cause epilepsy. Prenatal injury: Before birth, babies are sensitive to brain damage that could be caused by several factors, such as an infection in the mother, poor nutrition or oxygen deficiencies. This brain damage can result in epilepsy or cerebral palsy. Developmental disorders: Developmental disorders like epilepsy can sometimes be associated with developmental disorders, such as autism and neurofibromatosis. Dementia is a brain disorder that seriously affects a person's ability to carry out daily activities. Mild Cognitive Impairment (MCI), causes more memory problems than normal for people of the same age. Since its discovery, the Electroencephalography (EEG) has been widely used to investigate the neuropathology through a non-invasive physiological monitoring of patients. The EEG is a well-established modality for measuring the electrical activity generated by populations of neurons of manuscript received January 14, 2013, revised May 30, 2013 and accepted the cerebral cortex. The bioelectric signals are recorded through a set of scalp electrodes properly placed over the head according to the international 10-20 system. The EEG is essentially a multichannel data collection that represents the information connected with the brain activities from an information processing perspective it represents indeed a multivariate, non-stationary, non-linear time series. Many authors agree that the concept of entropy has achieved a large consensus as an indicator of complexity of non-linear signals.

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