VIDEO EEG IN MYOCLONUS

Thesis in fulfilment of the MD degree in Clinical Neurophysiology

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وقل رب أدخلني مدخل صدق
وأخرجني مخرج صدق واجعل
لـي مـن لدنك سلـطانا نـصيرا

الاسراء (٨٠)

To my family

Dear husband

Lovely daughters

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Abstract

It is important to classify myoclonus into cortical, subcortical and spinal myoclonus especially from the view point of treatment, because cortical myoclonus is usually more severe than myoclonus of other categories. And patients with cortical myoclonus often develop generalized convulsion seizures. Since most myoclonus depending on enhancement of neuronal activities which are inherently present in normal subjects, electrophysiological studies are useful for elucidating the underlying pathophysiological mechanisms and correct diagnosis. The main neurophysiological tests that could detect origin of myoclonus are Video-EEG monitoring and somatosensory evoked potential which is a confirmatory test for cortical myoclonus. The aim of this study is to detect reliability of video-EEG in detecting the origin of myoclonus for proper diagnosis and prognosis. The subjects included were: Forty seven patients (21 males and 26 females) selected from the Neurology outpatient clinic Kasr Al-Eini Hospital presented clinically by idiopathic myoclonus. Their age ranging from 11 to 51 years. Conclusion: To determine the generator of myoclonus, clinical as well as neurophysiological features have to be taken into account. Once spinal or cortical origin has been excluded, myoclonus may be subcortical in which no positive arguments for its topography. Extensive neurophysiologic studies in each myoclonic patient appear to be a hard & time consuming work, however the net results of these studies deserved to be hardly studied to reach proper diagnosis for reaching right way in treatment. Video EEG (and JLBA) are more sensitive tool for diagnosing physiological type of myoclonus, accordingly giving correct treatment. Routine conventional EEG may be of value in general diagnosis of myoclonus, but has no the same role as Video EEG & in the diagnosis of type of myoclonus. However conventional EEG is of value in the diagnosis and follow-up of patients with metabolic, degenerative or epileptic forms of myoclonic disorders. Demonstration of EEG SSW or PSSW in association with myoclonus usually suggests its cortical origin, but absence of them in association with myoclonus does not entirely exclude the possibility of cortical origin. On the other hand, myoclonus of subcortical or spinal cord origin is not associated with any special EEG phenomena. Demonstration of giant SSEP is of significant value for supporting the clinical diagnosis of cortical myoclonus. However absent giant reflex no exclude cortical myoclonus, so investigator should proceed to SSEP recovery cycle & C-reflex studies.

Keywords:

Video – EEG – Myoclonus – Neurophysiological

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List of Abbreviation

ACTH	Adreno cortico trophic hormone
AD	Alzheimer`s disease
ADEM	Acute Disseminated Encephalomyelitis
ADL	Activities of daily living
AED	Anti epileptic drug
APB	Abductor pollicis brevis
BAEP	Brainstem auditory evoked potential
BMEI	Benign myoclonic epilepsy of infants
CBD	Corticobasal degeneration
CBZ	Carbamazebine
CJD	Creutzfeldt Jakob disease
CLF	Ceroid lipofucinosis
CMCT	Central motor conduction time
CNS	Central nervous system
CSF	Cerebrospinal fluid
CT	Computerized tomography
DNA	Deoxyribonucleic acid
EEG	Electroencephalography
EIEE	Early infantile epileptic encephalopathy
EME	Early myoclonic encephalopathy
EMG	Electromyography
ENM	Epileptic negative myoclonus
EPC	Epilepsia partialis continua
EPT	Essential palatal tremor
ERG	Electroretinogram
ES	Epileptic seizure
GTCS	Generalised tonic clonic seizures
HD	Huntington`s disease
HIV	Hyperventilation
IPS	Intermittent photic stimulation
JME	Juvenile myoclonic epilepsy
LGS	Lennox Gastaut syndrome
LLR	Long latency reflex
LT	Left

LTG	Lamotrogine
MA	Myoclonic absence
MA	Myoclonic absence
MAE	Myoclonic astatic epilepsy
MEG	Magnetoencephalography
MEP	Motor evoked potential
MERRF	Mitochondrial encephalopathy with red ragged fibres
MRI	Magnetic resonance image
NCSE	Non convulsive status epilepticus
NCSs	Non convulsive seizures
NES	Non epileptic seizure
NINDS	National institute of neurological disorders and stroke
NM	Negative myoclonus
PET	Positron emission tomography
PHT	Phynitoine
PLMS	Periodic limb movement of sleep
PMA	Progressive myoclonic ataxia
PME	Progressive myoclonic epilepsy
PNES	Psychogenic non epileptic seizure
PSSW	Poly spike slow wave
REM	Rapid eye movement
RHS	Ramsay Hunt syndrome
RLS	Restless leg syndrome
RT	Right
SCAs	Spino cerebellar ataxias
SCM	Sternocleidomastoid
SMEI	Severe myoclonic epilepsy of infants
SPT	Symptomatic palatal tremor
SSPE	Sub acute sclerosing panencephalitis
SSW	Spike slow wave
SW	Spike wave
TMS	Transcranial magnetic stimulation
VAP	Valproate
VEEG	Video EEG
VEEG	Video EEG
VEP	Visual evoked potential
WS	West syndrome

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