

# VIDEO EEG IN MYOCLONUS

Thesis in fulfilment of the MD degree in Clinical Neurophysiology

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وقل رب أدخلني مدخل صدق  
وأخرجني مخرج صدق واجعل  
لي من لدنك سلطانا نصيرا

( )

*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

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

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

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## \*Review of literature

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