Movement Disorders- DYSKINESIAS

The basic sign of movement:

ABNORMAL

INVOLUNTARY

CLASSIFICATION

- A. OBSERVATION

- 1. TREMOR
- 2. DYSTONIA
- 3. CHOREA
- 4. BALLISM
- 5. TICS
- 6. MYOCLONUS

- B. ETIOLOGY
- 1. Hereditary d.

- 2. SECONDARY d.
- - Drug induced (neuroleptics)
- - Vascular (lacunar stroke)
- - Metabolic and Endocrine (Wilson d., thyreopathy)
- - Immunologic (lupus erythematosus)
- - Psychogenic

TREMOR

- Continual
- Rytmic movement

- patologic sign in every age

Classification

- According to:
- 1. POSITION
- - rest or kinetic
- 2. LOKALIZATION
- - focal (head,hands) to generalized
- 3. FREQUENCY
- - slow, middle, serious
- 4. AMPLITUDE
- - light, middle, serious

- According to 5. ETIOLOGY :
-
- Physiologic (fever, hypothermia)
- Drug induced (antidepressants, antiasthmatics, AED)
- Metabolic and Endocrine (hypoglycemia,hyperthyreoidism)
- Withdrawal syndrome (ethanol)

ESSENTIAL TREMOR

- The most frequent Dyskinesia (4%)
- The most common cause of patologic tremor
- Mostly hereditary etiology
- Only monosymptomatic disease
- Tremor is kinetic, bilateral, mostly lokalized to hands
- Positive effect of ethanol abuse
- Long time of duration

Treatment

- 1. Does not take a trouble – without therapy
- 2. Takes a trouble sometimes - benzodiazepines intermittent
- 3. Takes a trouble most of the day – betablockers
- - barbiturates
- 4. Serious disability – injections of BTX (botulinum toxin)
- - DBS (very rare)

DYSTONIA

- Slow spasm causing abnormal postures

Classification according to ETIOLOGY

- - Idiopatic

  - Familiar (DYT 1……DYT 35)

  DRD (doparezponsive Dystonia) – low doses of L-Dopa

  - Symptomatic (Wilson d., parkinson plus d. –CBD,PSP)
- - Drug induced (antiemetics!, antiparkinsonics,neuroleptics)

Classification according to LOKALIZATION

- FOKAL D.
- SEGMENTAL D.
- GENERALIZED D. (hereditary, childhood)

FOCAL Dystonia

- CERVICAL
- - torticollis (most common)
- - anterocollis, retrocollis, laterocollis
- BLEPHAROSPASM
- WRITER´S CRAMP

Treatment

- 1. INJECTIONS OF BTX (focal D.)
- - chemical denervation, blocade of acetylcholintransfer
- - muscle weakness can be effective for about 3 months
- - 5% of patients develop antibodies

- 2. MEDICAMENT (pills)

- - Anticholinergics (Akineton)
- - GABA agonists (Baclofen)
- - benzodiazepines (Diazepam, Rivotril)

- 3. SURGICAL (generalized D.)
- - DBS (globus palidum bilateral)

CHOREA

- Chaotic
- Nonstereotype
- Irregular

CLASSIFICATION

- A. Hereditary

- B. SECONDARY
- 1. Drug induced (antiparkinsonics, AED, neuroleptics, HAK, KS, opiates)
- 2. Metabolic (hepatal or uremic encefalopathy)
- 3. Endocrine (chorea gravidarum)
- 4. Immunologic (lupus erythematosus)
- 5. Other (senile orofacial f.e. due to new dental prosthesis)

HUNTINGTON DISEASE

- - prevalence 4-10 : 100 000
- - adult form (age of onset 35 -50)
- - hereditary, AD (children – 50% risk)
- - symptom : chorea + dementia + personality changes
- - 100% mortality (survival 10 -15 years)
- - no causal treatment possibility
-

PATHOLOGY

- - faulty gen on the 4. chromozome and cause expansion of triplet CAG
- - less than 35 triplets : exclude HD
- - 40 and more triplets : confirm HD
- - result: production of pathologic protein Huntingtin

- Genetic testing (adult person in risk…Prague)

Clinical Symptoms

- - Dyskinesias (CHOREA f. to g. … less dystonia)
- - Mental symptoms (depression, anxiety, aggression, ethanol abuse, criminality)
- - Dementia (present always in late stadium)

Neuroimaging

- Brain CT or MRI - atrophy of caput ncl caudati
- Brain PET MRI - hypometabolism of ncl caudati

- Obrázek…..

Treatment
only symptomatic

- CHOREA - neuroleptics (Tiapridal, Haloperidol,Rispen)
- DEPRESSION - SSRI
- PSYCHOSIS - neuroleptics
- DEMENTIA - no treatment
- Clinical trials (2019) gene therapy (target: inactivation of prescription huntingtin protein)

(HEMI)BALLISM

- Rapid
- Severe
- Unilateral
- Lokalizated mostly on radical muscles of limb

- Prevalence - 1 : 500 000 (rare)
- Etiology - lession of ncl. subthalamicus Luysi mostly according to lakunar infarkt
- Treatment - neuroleptics
- - benzodiazepines
- - AED

TICS

- Sudden
- Stereotypic
- Movement or Vocalization

CLASSIFICATION

- MOTORIC T.
- - simple brief movement (head jerks, eye blinking)
- - complex coordinated movement (grimace)

- VOCAL T.
- - simple (coughing)
- - complex (words, sentences)

GILLES De La TOURETTE SYNDROME

- - simple brief jerks to complex pattern of rapid coordinated movements or vocalizations
- - onset in childhood
- - begin in the face and neck (97%)
- - relapses and remissions are common
- - association with compulsive and hyperactive behavior
- - prevalence 50 : 100 000 (boys)
- - hereditary possibility

Treatment

- - Psychotherapy
- - Severe tics : neuroleptics
- benzodiazepines
- injection of BTX
- - Severe OCD: SSRI

MYOCLONUS

- Brief muscle jerks

- Focal
- Segmental
- Generalized

- Spontaneous
- Reflex

CLASSIFICATION

- 1. CORTICAL
- - arising from the cerebral cortex
- - epileptic or nonepileptic
- 2. SUBCORTICAL
- - arising from the brainstem
- - only nonepileptic
- 3. SPINAL
- - arising from spinal cord
- - only nonepileptic

According to EEG + EMG results we can differentiate between epileptic or nonepileptic M.

- A. EPILEPTIC – progressive myoclonic epilepsy

- B. NONEPILEPTIC
- 1. Physiological (singultus)
- 2. Posthypoxic (KPR)
- 3. Metabolic (hepatal or uremic encephalopathy)
- 4. Infectional (JCD)
- *5. Drug induced (opiats, SSRI, Lithium, Gabapentin,anticholinergics)*

TREATMENT

- AED – valproic acid
- Benzodiazepines - clonazepam