Tremor/PGS/diagnostics

Differential diagnosis of tremor

Tremor is an involuntary continuous rhythmic movement formed by regular oscillations of the affected body part. It is caused by alternating contractions of reciprocally innervated antagonistic muscles or muscle groups. The following information should be obtained from the history and clinical examination:

- Does the tremor occur at rest, static load or during activity?
- Affected body part and lateral asymmetry (upper limb, lower limb, head, chin, voice)
- Tremor frequency and amplitude
- Tremor response to distraction
- Does the tremor bother the patient?
- Presence of other symptoms (HRS, dystonia, cognitive impairment, ataxia, dysmetria)
- RA and the response to alcohol
- Detailed pharmacological history

Essential tremor

Essential tremor, idiopathic, sometimes familial, is the most common cause **of tremor** (shaking), with a prevalence of 1-4%. **In the anamnesis** tere is a typical indication of family occurrence, relief after alcohol. It can sometimes occur together with dystonia or Parkinson's disease.

Etiopathogenesis

It can start at a younger age, in the 3rd decade, but also in old age (senile tremor). The pathogenesis and localization of the disorder are not known.

Clinical picture

tremor is typically static, kinetic and postural with a frequency of 4-12 Hz, affecting the upper limbs, the head, voice and lower limbs are less frequently affected. It manifests itself during motor activity, before its termination and disappears at rest. Tremor is faster than parkinsonian (6-8/s). The disability progresses slowly. The amplitude increases and the frequency decreases.

Therapy

the therapy is only symptomatic, we educate the patient about tthe benign nature of the disease. we only use Farmak when the symptoms bothers the patient. The drugs of first choice are primidone and beta blockers (metipranol), a lessser effect can be expected from benzodiazepines (clonazepam , alprazolam) or gabapentin. In case of significant tremor and insufficient effectiveness of pharamacotherapy, it is appropriate to consider neurosurgery - unilateral lesion or bilateral *Vim stimulation of the thalamus nucleus.*

Accentuated physiological tremor

It is mainly postural, abnormal enhancement of physiological tremor occurs in metabolic and endocrine disorders (hyperthyroidism, hyperparathyroidism, hypoglycemia), infectious febrile diseases, drug effect (lithium, tricyclic antidepressants, sympathomimetics, syntophylline, methylxanthines) or toxic (alcohol - even withdrawal, manganese), mercury, lead, arsenic)

Wilson's disease

Tremor is a typical and often the first symptom, it is slow, irregular with a root maximum and with a large amplitude (flapping tremor, wing beating tremor). Other signs of cerebellar or extrapyramidal involvement are often present, there may be an elevation of liver tests (further see above).

Cerebellar and rubral tremor

Cerebellar tremor is typically intentional and is accompanied by ataxia, hypermetria and other symptoms of cerebellar syndrome. **Rubral tremor** (Holmes') is usually unilateral, coarse, at rest, accentuated in a static position and during movement. It is a manifestation of a lesion of the ipsilateral cerebellar output pathway, usually ischemic or demyelinating.

Other causes of tremor

In **cervical dystonia**, we often encounter static shaking of the head in the horizontal plane (no-no). The patient may not be aware of head tilt, so it is important to rule out head tilt in isolated head tremors. Therapy is symptomatic - application of botulinum toxin. Tremor is also one of the most common **psychogenic movement disorders**. It is evidenced by a history of somatization, sudden onset and remission, unusual clinical combinations of rest, postural and action tremor, a decrease in amplitude or disappearance when attention is diverted, taking over the frequency of movement of the contralateral limb and a symptom of coactivation (increased tension of all muscle groups of the trembling limb). Tremor also occurs in **polyneuropathy** of any cause, apparently due to impaired sensory afferentation.

Tab. 7 Differential diagnostic overview of basic types of tremor

Type of tremor	syndrome or disease		note
calm	the mot common cause	Parkinson's disease	response to L-DOPA
	other causes	parkinsonian syndromes	
		Wilson's disease	
		rubral tremor	unilateral
postural (static)	the most common causes	essential tremor	response to alcohol
		accentuated physiological tremor	
		tremor in neuropathy	+ pallhypesthesia, hyporeflexia
	other causes	Parkinson's disease and syndromes	usually +resting tremor
		Wilson's disease	
		tremor in dystonia	
		rubral tremor	unilateral
simple kinetic		essential tremor	
		tremor in dystonias	
		accentuated physiological tremor	
intentional		cerebellar syndrome	+ ataxia, hypermetria etc.
		rubral tremor	