Polyneuropathy

General:

Causes and frequencies of polyneuropathies: diabetes 34.8%, unknown 22%, alcohol 11%, acute GBS (acute Guillain Barré syndrome) 6%, infectious 5.4%, vasculitis 4.1%, CIDP (chronic inflammatory demyelinating polyneuropathy) 4.1%, malabsorption 3.8%, paraneoplastic 2.7%, HSMN (hereditary sensorimotor neuropathy) 2.2%, paraproteinemia 1.1%, toxic 0.9%, amyloidosis 0.5 %, HNPP 0.2%, others 0.9%.

Viral infections: encephalitis epidemica, influenza, hepatitis epidemica, herpes zoster, measles, mononucleosis, mumps, varicella, tick bite meningoencephalo-myelitis, rickettsioses, dysentery, toxoplasmosis, typhus, paratyphus. **Bacterial infections:** brucelloses, botulism, diphtheria, lepra, leptospiroses, neurolues. Allergic reaction: serogenetic polyneuritis, idiopathic polyneuritis, Fisher syndrome, neuralgic amyotrophy of the shoulder.

Disease or suspicion of	Disease or suspicion of
(basal diagnostics)	ESR, CRP, blood differential, electrolytes, liver and kidney parameters, protein electrophoresis, TSH
diabetes mellitus	glucose diurnal profile, HbA1c, oral glucose tolerance test
alcoholism	transaminases, MCV, CDT, vitamins
funicular myelosis	vitamin B12

Extended examinations:

Disease or suspicion of	Special clinical comments	Diagnostics
funicular myelosis	ataxia, delayed SEP	vitamin B12, Schilling test, gastroscopy, parietal cell Abs, vitamin B1 and folic acid
malreabsorption or -absorption	loss of weight	xylose test, vitamin B1, vitamin B6, vitamin E, folic acid

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Disease or suspicion of	Special clinical comments	Diagnostics
vasculitis	existing rheumatoid disorder or systemic vasculitis, focal neuropathy, subacute progressive pareses	rheumatoid factor, ANA (if pos., dsDNA and ANA profile screening (= ENA)), p-, c-ANCA, C3, C4, C3d, circulating immunocomplexes (CIC), cryoglobulins, hepatitis C serology, eosinophils
neuroborreliosis	history of tick bite and/or ECM, radiculoneuritis	borrelia serolgy, CSF/ serum examination (see CSF diagnostics)
other microorganism-determined PNP		Serology: mycoplasma CMV, HIV, TPHA
toxin detect. for C. diphtheriae		
cryoglobulinemia	suspicion of mycoplasma pneumonia, suspicion of chron. hepatitis	cryoglobulins, hepatitis C serology
paraproteinemia	chronic or subacute demyelinating PNP	immunoelectrophoresis, immunofixation, Bence Jones proteins in 24h-collecting urine, anti-MAG
sarcoidosis	pulmonary involvement	ACE
MMN	purely motor neuropathy, conduction blocks	GM1-IgG, -IgM antibody

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Disease or suspicion of	Special clinical comments	Diagnostics
GBS	progressive ascending predominantly motor neuropathy	Campylobacter jejuni Ab, cytomegaly Ab, CSF (*see there*)
Miller Fisher syndrome	ataxia and eye muscle pareses	anti-GQ1b
CIDP	subacute demyelinating PNP	immunoelectrophoresis, CSF (*s. below*)
malignoma	reduction of weight, night sweat (B-symptoms), sensory neuropathy	hemoccult, anti-Hu-antibody, immunoelectrophoresis
hypoparathyroidism		Ca^{++}, inorganic phosphate, parathormone
porphyria		delta-aminolevulinic acid, porphobilinogen
intoxication		24 h urine for arsenic, lead, thallium, mercury. Basophil stippling of the erythrocytes in lead intoxication
Morbus Refsum		phytanic acid
Paraneo. Disorder, with polyneuropathy		Neuronal Ab (see Autoantibody, HU, Ri, Yo-Purkinje cell Ab)

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CSF examinations:

Disease or suspicion of	Special clinical comments	Diagnostics
GBS	progressively ascending predominantly motor neuropathy	cell count (<10), protein increase (cave, can be still normal in the first week)
CIDP	subacute demyelinating PNP	cell count (<10), protein increase
borreliosis	anamnesis of tick bite and/or ECM, radiculoneurits	borreliae Ab, intrathecal IG-synthesis, EW barrier disturbance, cell count
diabetic PNP		slight to moderate barrier disturbance
lymphoma		CSF cytology

Molecular genetic test:

Charcot-Marie-Tooth Type 1	hereditary neuropathy with disposition to compression pareses	peripheral nerve myelin protein 22 gene duplication
X-linked Charcot-Marie-Tooth Disease		connexin 32 mutation, PO gene mutation

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit http://www.fml-dubai.com/parameter-listings/

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