Tests for treatable causes of small-fiber polyneuropathy

BLOOD TESTS TO CONSIDER FOR ADULTS

- Chemistries (if glucose is high test for DM; if renal is high consider Fabry, mercury toxicity)
- Complete blood count (if low, consider B12 or copper deficiency, lead/arsenic toxicity)
- AST, ALT (liver function; if abnormal consider hepatitis or alcohol)
- Hemoglobin A1c (if high, consider 2 hour GTT)
- TSH thyroid screening
- Vitamin B12 levels (if 200-500pg/dl consider methylmalonic acid level)
- ESR (sedimentation rate; if elevated, consider inflammatory/dysimmune conditions)
- ANA (antinuclear antibodies; higher titers suggest lupus or dysimmune conditions)
- Anti-Ro (SS-A) and anti-La (SS-B) (if present, consider Sjögren’s disease)
- CRP (C-reactive protein; if elevated, consider inflammatory/dysimmune conditions)
- Complement component C3 (if low, consider dysimmune conditions including lupus)
- Complement component C4 (dysimmunity; if low C3+C4, consider classic pathway)
- Hepatitis C serology (if abnormal consider testing for cryoglobulins)
- Lyme antibodies by Western blot (for inhabitant or visitor to endemic area)
- SPEP/IFIX (immunofixation tests for lymphoproliferative disorders)
- Free κ/λ light chains (tests for less common lymphoproliferative disorders)
- IgA anti-TTG (transglutaminase antibodies; if present consider celiac sprue)

TESTS TO CONSIDER IN SPECIFIC POPULATIONS

- 2 hour, 75 g fasting glucose-tolerance test (strongly consider for all at risk for DM)
- HIV (CDC recommends everyone ages 13-64 be tested ≥ once, high-risk more often)
- Methylmalonic acid (consider if vitamin B12 less than 500 pg/dL)
- Thiamine (if low, consider vitamin B1 deficiency)
- Pyridoxine (if high, consider vitamin B6 neurotoxicity, if low, consider B6 deficiency)
- Anti-ds DNA, anti-Smith (consider if ANA present)
- Cryoglobulins, cryofibrinogens, viscosity (consider for myeloma, hep C, RA, SLE)
- Urine protein electrophoresis to identify Bence Jones paraproteins
- 24 hour urine for arsenic, lead, mercury, cadmium (for artists, welders, miners)
- ACE (angiotensin converting enzyme; for sarcoidosis in patients with lung symptoms)
- Phenotype-guided genetic sequencing esp. if family history (e.g., HSAN-1, SCN9A)
- Abdominal fat-pad biopsy for amyloid

Check for toxins and medications; e.g., cancer chemotherapy, HIV therapy, statin, colchicine, isoniazid, dapsone, hydralazine, lithium, phenytoin, vitamin B6, disulfiram, amiodarone, procainamide, perhexiline, streptokinase, nitrous oxide, metronidazole, nitrofurantoin, gold, thalidomide, TNF-antagonists, antimicrobials (chloramphenicol, fluoroquinolones, metronidazole, nitrofurantoin), history of GI surgery, malabsorption, alcoholism, exposure to inorganic arsenic, thallium, mercury, industrial toxins, organophosphate insecticides.

References


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