Acute and Chronic Neuropathies

* **Mononeuropathy**
  * one nerve with one point of impingement

* **Mononeuropathy multiplex**
  * one nerve with multiple points impingement

* **Polyneuropathy**
  * multiple nerves and multiple points impingement
Acute and Chronic Neuropathies

- Clinical Workup:
  - Personal/Family History
  - Glucose
  - Sedimentation rate
  - Creatinine
  - Thyroxine
  - Complete Blood Count
  - Pertinent Radiographic films
Focal Compressive Radiculopathies

- Localized peripheral nerve
- Usually from compression
- Must differentiate from multiplex
- Examples:
  - Radial neuropathy
  - Carpal tunnel syndrome
  - Ulnar neuropathy
  - Sciatic nerve
  - Peroneal nerve compression
  - Brachial neuritis
Acute and Chronic Neuropathies

Mononeuropathy Multiplex

Diabetic Neuropathy - MOST COMMON

Alcoholic Neuropathy -

Bell’s Palsy

Multiple Sclerosis (MS)
Polyneuropathies

- Landry-Guillain-Barre - MOST COMMON
- Hereditary Motor and Sensory Neuropathy
- Chronic Inflammatory Demyelinating Polyneuropathy (CIDS) - steroids make it better
- Other
  - HIV
  - Toxicity - usually sensory - (Thallium, organophosphates, lead)
  - Nutritional - Thiamine, B6, B12 Deficiencies
  - Paraneoplastic
  - Rheumatologic
Hereditary Motor and Sensory Neuropathy

- Also known as Charcot-Marie-Tooth
- Most common inherited polyneuropathy
- Two main types: Type I and Type II
- Autosomal recessive or autosomal dominant
- Slow onset
- Foot drop/weakness
- Sensory loss in a stocking distribution
**Landry-Guillain-Barre**

- Most common inflammatory polyneuropathy
- Ascending paralysis/weakness limbs
- Areflexia
- Causes: Preceding infectious illness (2/3)
  - CMV
  - EBV
  - VARICELLA
  - Campylobacter
  - Swine influenza
  - Rabies
- CSF: elevated protein and slight increase cell count
- Treatment:
  - Plasmaphoresis
  - IVIG
  - Steroids of no use
Case 1

A 52-year-old man presents with 2 years of gradual progressive burning, stinging, and tingling in the feet.

To a lesser extent he has tingling in the fingertips bilaterally.

Shoes, socks, and even the light touch of bed sheets are very irritating and limit his ability to rest.

When walking the pain becomes more severe like an electrical shock pain in the feet.

The examination shows:
Decreased sensation in a stocking-glove pattern which is symmetric.
Muscle strength is normal.
The muscle stretch reflexes are absent at the ankles otherwise normal.
Diagnosis:

Chronic Progressive Sensory Neuropathy

Metabolic: Diabetes, HIV, Sarcoidosis, Myeloma, or Porphyria

Alcohol

Nutritional

Vascular

Toxic

Rheumatologic
Acute and Chronic Neuropathies

- **Diagnostics**
  - Glucose, Creatinine, Liver profile
  - ESR
  - T4
  - CBC
  - CXR
  - SPEP, HIV, ANA, ACE, B12, B1
Treatment of neuropathic pain

- **Trigeminal neuralgia (sharp stabbing face pain)**
  - Carbamazepine/Oxcarbazepine
  - Gabapentin
  - Lamotrigine
  - Baclofen

- **Limb neuralgia (sharp, stabbing, zinging, lightning, bee-sting pain)**
  - Gabapentin
  - Lyrica (only diabetic/Zoster)
  - Duloxetine (only diabetic)
  - Lamotrigine
  - Topomax
  - Lidocaine/Capsaicin

- **Continuous burning dysesthesias and supersensitivity (as in a diabetic)**
  - Pregabalin
  - Gabapentin
  - SSRI
  - Tricyclic Antidepressants such as Nortriptyline and Amitriptyline
  - Topical Lidocaine
  - Lamotrigine
  - Topomax
  - Tramadol
  - Opioid Analgesics
Case 2

A 24-year-old man presents with 5 days of progressive burning, stinging, and tingling in the feet, gradually ascending up the legs.

Creeping into the hands symmetrically.

On the day of admission he has difficulty walking because of the development of bilateral foreleg weakness with foot drop.

A few days before the onset of his sensory symptoms he had a severe 24-hour gastrointestinal syndrome.

The examination shows distal sensory loss in a stocking-glove pattern, muscle stretch reflexes are absent, and foot drop bilaterally.

Hands are shown in picture.
Answer:

Heavy Metal Poisoning -

probably Arsenic or Thallium
29-year-old man presents after waking up with intense aching pain in the right jaw and ear. He has sagging of the right side of the face.

Examination shows
Face at rest, smiling, raised eyebrows with deficit otherwise normal exam

Sensation is mildly increased

The examination of the ear is normal.

* What is the diagnosis?
* How much work-up is appropriate?
Answer:

- Bell’s Palsy
- Physical exam only

What if a vesicular lesion was found on ear exam?

What would the diagnosis be?
A 25-year-old man presents with 3 days of gradual progressive difficulty walking. He is having weakness of his arms and legs. He has had subjective heaviness in the legs, and mild tingling in the feet.

Examination shows:
Moderate weakness of proximal and distal muscle groups (shoulders, arms, and legs in symmetric fashion).
There is mild decrease in position and vibration sense in the toes.
The muscle stretch reflexes are absent in the arms and legs.
He describes a mild respiratory illness 3 days before the onset of weakness.

What is the diagnosis?
Answer:

Landry-Guillain-Barre
40-year-old woman presents with 15 years of gradual progressive difficulty with ambulation
Tendency to stumble easily;
Most recent difficulty with hand function including grip, strength, opening jars, and grasping fine objects.
The symptoms are symmetric.
There is minimal tingling in the toes but no sensory loss in the hands.
The examination shows the presence of atrophy in the foreleg muscles
Prominent tibial bones; atrophy of the intrinsic hand muscles and pes cavus.
The muscle stretch reflexes are absent
There is decreased vibration sense in the toes and fingertips, and slightly decreased pin prick in the toes.
There is associated foot drop bilaterally.
Proximal strength is normal.

Diagnosis?
* Answer:

* Charcot-Marie-Tooth Disease
Case 7

A 51-year-old man presents with 3 weeks of continuous burning, stinging, and intense discomfort in the side of the leg as shown.

He has no other past medical history, takes no medications, and has no back pain or leg weakness, and no recent viral symptoms.

Examination shows:
Super sensitivity in the circle area whether touched with a pin or with cotton, all stimuli are equally noxious.
Strength in the legs is normal as are the muscle stretch reflexes.

What is the diagnosis? Treatment?
Acute and Chronic Neuropathies

* Answer:

* Lateral femoral cutaneous neuropathy syndrome
  
  * meralgia paresthetica
53-year-old woman presents with 5 days of burning pain in the left posterior chest. It radiates around her side to the anterior chest in a band-like pattern. She reports recent malaise, nausea, and vomiting. In the last 24 hours she has developed clusters of vesicles on a red base in the area of burning pain.

What is the diagnosis?
Answer:

Herpes Zoster
Amyotrophic Lateral Sclerosis (ALS)

Also known as “Lou Gehrig's Disease”

Progressive Degenerative with muscle wasting

Sensory and Cognitive changes

Affects men more than women ages 40-60
Clinical Manifestations

Musculoskeletal
* Weakness/fasciculations/spasticity/paresis/hyperreflexia

Respiratory
* Dyspnea/Difficulty clearing airway

Nutrition
* Difficulty chewing/Dysphagia

Emotion
* Loss of control/ liability

Cognitive
  * Intellect intact
Acute and Chronic Neuropathies

Prognosis/Treatment

Diagnosis is with EMG

Death is usually resultant of pneumonia

Riluzole (Rilutek) which extends life a few months

Supportive nutrition/ventilation/communication/mobility

Respiratory compromise within 2-5 years of diagnosis