Management of Patients With Neurologic Infections, Autoimmune Disorders, and Neuropathies

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Kernig’s Sign

When the client is lying with the thigh flexed on the abdomen, the leg cannot be completely extended.
Brudzinski’s Sign

When the client’s neck is flexed, flexion of the knees and hips is produced, when the lower extremity of one side is passively flexed, a similar movement is seen in the opposite extremity.
A chronic autoimmune disease affecting the myelin sheath and conduction pathway of the CNS

**Process of Demyelination**

Slow disintegration of myeline, resulting in a disruption in axon function

Figure 59-2, pp. 1542
Types and Courses of Multiple Sclerosis

1. Relapsing-remitting

2. Primary progressive

3. Secondary progressive

4. Progressive-relapsing
MALIGNANT TUMORS

- Autoimmune
- Usually ♀
- Familial

Charcot’s triad
- Nystagmus
- Intention tremor
- Scanning speech

* Nystagmus
* BLURRED VISION
* Dysarthria
* Dysphagia

* Onset 20s to 40s

* Urinary Retention
* Spastic Bladder
* Constipation

* Weakness may progress to paralysis
* Muscles Spasticity
* Ataxia
* Vertigo
Myasthenia Gravis (Con’t)

Normal Ach receptor site

Ach receptor site in myasthenia gravis
# Neuromuscular Conduction vs. MG

<table>
<thead>
<tr>
<th>Normal</th>
<th>MG</th>
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<tr>
<td><strong>Motor nerve impulses travel to motor nerve terminal</strong></td>
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<tr>
<td><strong>Ach is released</strong></td>
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<tr>
<td><strong>Ach diffuses across synapse</strong></td>
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<tr>
<td><strong>Ach receptor sites in motor end plates depolarize muscle fiber</strong></td>
<td><strong>Ach receptor sites, weakened or destroyed by attached antibodies, block Ach reception</strong></td>
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<td><strong>Depolarization spreads causing muscle contraction</strong></td>
<td><strong>Depolarization &amp; muscle contraction don’t occur, neuromuscular transmission in blocked</strong></td>
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To prevent prolonged muscle response to a single nerve signal, acetylcholine is broken down by acetylcholinesterase after the muscle is stimulated.
Removal of the thymus reduces the production of antibodies against the nerve-muscle junction.

**Thymectomy**

- **Transsternal Thymectomy**
  - Full Sternotomy
  - Partial Sternotomy

- **Minimally Invasive Thymectomy**
  - Thoracoscopic Thymectomy
Risk Factors:
- Possibly Autoimmune
- Association with Immunizations
- Frequently preceded by mild respiratory or intestinal infection
- Progresses over hours to days
- Minimal Muscle Atrophy

GUILLAIN-BARRE’ SYNDROME

Symmetrical Paralysis

Causes Problems With:
- Respiration
- Talking
- Swallowing
- Bowel & Bladder Function

Begins in lower extremities and ascends bilaterally =
1) Weakness
2) Ataxia
3) Bilateral Paresthesia Progressing to Paralysis.
Distribution of the Trigeminal Nerve Branches

Figure 61-1-7, pp. 1581

Is responsible for sensation in the face, but it also has certain motor functions (biting, chewing, and swallowing)
Controls the muscles of facial expression, and taste to the anterior two-thirds of the tongue.
Diagnosing Bell’s palsy

Ask the patient to close his eyes

- Eye remains open
- Flat nasolabial fold

Ask the patient to raise his eyebrows

- Forehead doesn’t wrinkle
- Eyebrow doesn’t rise
- Paralysis of lower face

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Bell’s Palsy

- Forehead Not Wrinkled
- Eyeball Rolls Up
- Eyelid Does Not Close
- Flat Nasolabial Fold
- Paralysis of Lower Face

**Etiology:**
Possible reactivation of herpes vesicles in and around the ear will proceed facial paralysis.

**Treatment:**
- Corticosteroids
- Antivirals
- Time - 85% Full Recovery In 6 Months

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