Care Step Pathway – Neuropathy (motor or sensory nerve impairment or damage)

Assessment

Look:
- Does the patient appear weak?
- Does the patient appear uncomfortable?
- Altered ambulation or general movement?
- If muscular weakness is present, any respiratory difficulties apparent?

Listen:
- Does the patient report weakness (unilateral or bilateral)?
- Does the patient report new or worsened pain, numbness, or tingling?
- Does the patient report difficulty walking or holding items?

Recognise:
- Motor deficits
- Sensory deficits
- Mental status changes
- Paresthesias
- Laboratory values
- Past history of toxicities with other therapies
- Does the patient have diabetes mellitus?
- Are there neurologic signs and symptoms?
- Results of prior imaging
  - Metastases to spinal cord
  - Other metastases that may cause symptoms

Grading Toxicity: ULN

Grade 1 (Mild)
Peripheral Motor:
- Asymptomatic; clinical or diagnostic observations only
- No intervention indicated

Peripheral Sensory:
Asymptomatic; loss of deep tendon reflexes or paresthesia

Grade 2 (Moderate)
Peripheral Motor:
Moderate symptoms; limiting instrumental ADLs

Peripheral Sensory:
Moderate symptoms; limiting instrumental ADLs

Grade 3 (Severe)
Peripheral Motor:
Severe symptoms; limiting self-care ADLs; requires assistive devices

Peripheral Sensory:
Severe symptoms; limiting self-care ADLs

Grade 4 (Potentially Life-Threatening)
Peripheral Motor:
Life-threatening; urgent intervention indicated

Peripheral Sensory:
Life-threatening; urgent intervention indicated

Grade 5 (Death)

Management

Overall Strategy:
- Screen for neuropathy causes: diabetes with HbA1C, vit B12, folates, TSH, and HIV
- Rule out infectious, noninfectious, disease-related etiologies (disease progression medications, metabolic/endocrine disorders, environmental exposures, vascular or autoimmune, trauma)
- Guillain–Barré syndrome to be managed in the ICU setting, with particular attention to protection of the airway
- Taper steroids* slowly over at least 4 weeks once symptoms improve
- If needed, obtain physical therapy or occupational therapy consult (for both functional assessment and to evaluate safety of patient at home)
- Supportive medications for symptom management (e.g., gabapentin, pregabalin, or duloxetine)

Grade 1 (Mild)
- Withhold immunotherapy
- Monitor patient closely; evaluate to exclude other causes
- Consider MRI brain, nerve conduction tests, EEG, & lumbar puncture
- Consider referral to neurologist
- If worsens, treat as Grade 2 or 3-4

Grade 2 (Moderate)
- Withhold immunotherapy, consider permanent discontinuation if symptoms persist or are unresponsive to corticosteroids
- Monitor patient closely
- Evaluate to exclude other causes
- Referral to neurologist
- If worsens or no improvement, treat as Grade 3-4

Grades 3/4 (Severe or Life-Threatening)
- Permanently discontinue immunotherapy
- Monitor patient closely
- Hospitalise patient
- Urgent referral to neurologist
- Urgent administration of corticosteroid therapy (e.g., IV methylprednisolone 2mg/kg/day (up to 1g for 3 days) followed by high-dose oral prednisolone 1-2 mg/kg/day or equivalent.
- If worsens or atypical presentation, consider other immunosuppressive therapy

Implementation:
- Compare baseline assessment; grade & document neuropathy and etiology (diabetic, disease progression medication, vascular, chemotherapy)
- Early identification and evaluation of patient symptoms
- Early intervention with lab work and office visit if neuropathy symptoms suspected

*Administering Corticosteroids:

Steroid taper instructions/calendar as a guide but not an absolute
- Taper should consider patient's current symptom profile
- Close follow-up in person or by phone, based on individual need & symptomatology
- Steroids cause indigestion; provide antacid therapy daily as gastric ulcer prevention while on steroids (e.g., proton pump inhibitor or H2 blocker if prednisone dosage is >20 mg/day)
- Review steroid medication side effects: mood changes (angry, reactive, hyperaware, euphoric, manic), increased appetite, interrupted sleep, oral thrush, fluid retention
- Be alert to recurring symptoms as steroids taper down & report them (taper may need to be adjusted)

Long-term high-dose steroids:
- Consider antimicrobial prophylaxis
- Consider additional antiviral and antifungal coverage
- Avoid alcohol/acetaminophen or other hepatoxins
- If extended steroid use, risk for osteoporosis; initiate calcium and vitamin D supplements

RED FLAGS:
- **Guillain–Barré syndrome**
- **Myasthenia gravis**
- **Pain, numbness, and asymmetrical weakness consistent with a vasculitis syndrome**

ADLs = activities of daily living; HIV = human immunodeficiency virus; po = by mouth; TSH = thyroid-stimulating hormone