Neurologic Dysfunction Following Vaccination Algorithm

Vaccine Administered Within Previous 42 Days

Symptoms suggesting Neurologic Dysfunction
- Encephalopathy
- Flaccid limb weakness/paralysis
- Sensory abnormalities
- Autonomic dysfunction
- Other neurologic signs/symptoms (TBD)

History and physical examination
- Determine signs, symptoms
- Elicit time course and extent of deficit(s)
- Determine if history suggests infection, inflammatory disease, vascular/ischemia, neoplasia, multiple sclerosis, alcoholism, radiation exposure, or trauma

H/P suggestive of compressive myelopathy

Yes → If gadolinium enhanced MRI of the spinal cord shows spinal mass, obtain urgent neurosurgical consultation

No

H/P suggestive of Central Process [1]

Yes →
- Obtain MRI - If diffuse or multifocal brain &/or cord white matter lesions evaluate for the following…
- CBC with differential, ESR, CRP
  Lumbar puncture [3]
  R/O infectious etiology [4]
  R/O other factors [5]

No

H/P suggestive of Peripheral Process [2]

Yes →
- Obtain electrophysiologic (NCS/ EMG) studies to evaluate for the following…
- CBC with differential, ESR, CRP
  Consider LP if sx origin unclear [3]
  R/O infectious etiology [4]
  R/O other factors [5]

Click on representative diagnosis (based upon H/P, imaging, & labs) for further diagnostic and therapeutic suggestions.

- ADEM
- Transverse Myelitis
- Encephalopathy
- Guillain-Barre Syndrome
- Brachial Plexus Neuritis
- Bell's Palsy

Contact the Immunization Healthcare Division and your Neurology consultant for specific guidance

Footnote [1] Suggests a central process
- Encephalopathy
- Focal cortical signs (e.g., aphasia)
- Cranial nerve abnormality(ies)
- Visual field defect/defects
- Presence of primitive reflexes (Babinski's sign, glabellar reflex, snout/sucking reflex)
- Weakness (diffuse or focal)
- Sensory abnormalities
- Altered deep tendon reflexes (hypo- or hyperreflexia, asymmetry of reflexes)
- Cerebellar dysfunction (e.g., ataxia, dysmetria, nystagmus)

Footnote [2] Suggests a peripheral process
- Limb weakness following an acute severe pain in the shoulder girdle and upper arm with no apparent cause
- Focal facial weakness/paresthesia
- Acute onset of bilateral relatively symmetric flaccid weakness/paralysis of the limbs with or without involvement of respiratory or cranial nerve-innervated muscles
- Decreased or absent deep tendon reflexes
- Monophasic illness pattern, with weakness nadir reached between 12 hours and 28 days, followed by clinical plateau and subsequent improvement, or death

Footnote [3] Lumbar puncture
- CSF lymphocytic pleocytosis or polymorphonuclear leucocytosis
- Myelin Basic Protein
- Oligoclonal bands
- CSF IgG index

Footnote [4] Infectious causes
Influenza, HSV 1 & 2, EBV, CMV, HIV, HHV6, Coxsackie, Coronavirus, West Nile virus; Streptococcus, Chlamydiae, Campylobacter, Syphilis, Mycoplasma pneumoniae, Varicella Zoster, Lyme

Footnote [5] Other Labs
- Comp Metabolic Screen
- Hgb A1c
- B12/Folate
- Thyroid profile/TSH
- SPEP - r/o monoclonal abs
- Urinalysis, UPEP - if protein incr
- Urine heavy metals
- ANA/ENA/RF