

**FIGURE 8**  
**Management of Immune-Related Neurotoxicities**<sup>1,9,13,14,22,23,33</sup>

**Background:** Neurologic toxicities related to immune therapy are potentially antibody-mediated events that can range from mild paresthesia to severe such as Guillain-Barré syndrome, severe motor neuropathy, myasthenia gravis (which can be life threatening but occurs extremely rarely at <1%). Neurotoxicity can be sensory, motor and/or CNS which encompasses enteric neuropathy, inflammatory myopathy, lymphocytic meningitis, cerebral vasculitis and optic neuritis. Immune-related neurologic toxicity typically occurs at 1-6 weeks after initiation of treatment.

		MANAGEMENT				
		Description	Referral	Corticosteroids	Supportive Therapy	Immune Therapy
NEURO-TOXICITY	<b>GRADE 1</b>	Asymptomatic or mildly symptomatic.	Not required.	Not required.	Not required.	Continue immunotherapy and monitor for progression of disease.
	<b>GRADE 2</b>	New onset moderate symptoms limiting instrumental activities of daily living.	Early neurological consult is advised MRI, nerve conduction studies, lumbar puncture, electromyography may be required to assist diagnosis and to rule out other causes.*	Start oral prednisone 0.5-1 mg/kg/day or equivalent and taper over 2-4 weeks if 0.5 mg/kg and over 4 weeks if 1 mg/kg if improved. If no response, treat as grade 3-4.	If worsens or atypical presentation despite steroids, consider other immunosuppressive agents such as infliximab (5 mg/kg) or mycophenolate mofetil (500 mg BID) until resolution to grade 0-1.	Withhold therapy until resolution to grade 0-1 & resume after analysis of benefit/risks; evaluate on case-by-case basis.
	<b>GRADE 3</b>	New onset severe symptoms (e.g. vision changes, weakness affecting self-care activities of daily living or sensory deficits). Not immediately life threatening.		Start prednisone 1-2 mg/kg/day IV or equivalent and taper over at least 4 weeks once resolves to grade 0-1.	Some patients may require IV immunoglobulin, plasmapheresis or supportive medications. <sup>§</sup>	Permanently discontinue immune therapy.
	<b>GRADE 4</b>	Life threatening consequences; urgent intervention indicated.				

§ pyridostigmine bromide for myasthenia gravis disease  
 \* infectious causes, disease progression etc.