**On-line Table: Imaging findings, differential diagnosis, and clinical features of paraneoplastic neurologic syndromes**

| Paraneoplastic Neurologic Syndrome | Imaging Findings | Differential Diagnosis | Malignancies | Commonly Associated Paraneoplastic Antibodies |
|---|---|---|---|---|
| Limbic encephalitis | Increased T2 signal and FDG avidity involving any part of the limbic system | Herpes encephalitis, status epilepticus, neoplasm | SCLC, testicular germ cell neoplasm, thymoma, teratoma, Hodgkin lymphoma | Anti-Hu/ANNA-1, anti-Ma2, anti-CRMP5, anti-amphiphysin (anti-LG1, anti-GAD65, and anti-CASPR2 are typically nonparaneoplastic antibodies seen in limbic encephalitis) |
| Paraneoplastic cerebellar degeneration | *Acute:* T2 hyperintensity in the cerebellar hemispheres; MR imaging findings are often normal<br>*Chronic:* Cerebellar atrophy and FDG hypometabolism | *Acute:* Infectious/inflammatory cerebellitis<br>*Chronic:* Multiple system atrophy, spinocerebellar ataxia, alcohol abuse | SCLC, Hodgkin lymphoma, gynecologic malignancies | PCA-1/anti-Yo, anti-Tr/DNER, anti-Ri, anti-Ma, anti-CRMP5, ANNA-1/anti-Hu, anti-VGCC, anti-mGluR1, anti-Kelchlike protein 11, anti-G-AchR |
| Cranial neuropathy | Cranial nerve enlargement and/or enhancement | *Nodular enhancement:* Sarcoidosis, lymphoma, infection, metastases<br>*Smooth enhancement:* Guillain-Barré syndrome, infection<br>*Enlargement without enhancement:* Chronic inflammatory demyelinating polyneuropathy | SCLC, gallbladder carcinoma | Anti-Hu/ANNA-1, anti-Kelchlike protein 11 |
| Brain stem encephalitis | *Acute:* T2 hyperintensity in the brain stem and cerebellum; MR imaging findings are often normal<br>*Chronic:* Brain stem and/or cerebellar atrophy | *Acute:* Infection (*Listeria*, HHV6), inflammatory disorders (Behçet)<br>*Chronic:* Multiple system atrophy, spinocerebellar ataxia | Testicular germ cell tumors, breast cancer, gynecologic malignancies, SCLC | Anti-Hu/ANNA-1, anti-Ri/ANNA-2, anti-Ma2, anti-Kelchlike protein 11 |
| Myelitis | Spinal cord T2 hyperintensity and enhancement, often with a predilection for the lateral columns; may have spinal cord FDG avidity | Neuromyelitis optica, spinal dural AVF (perimedullary flow voids), radiation myelitis, cord infarct (predilection for anterior horns), neurosarcoidosis | SCLC, breast cancer | Anti-Hu/ANNA-1, anti-amphiphysin, anti-CRMP5 |
| Polyneuropathy | Enlargement and/or enhancement of the cauda equina; involvement can be ventral, dorsal, or diffuse | *Smooth enhancement:* Guillain-Barré syndrome (classically has ventral predominant cauda equina enhancement), infection<br>*Nodular enhancement:* Sarcoidosis, lymphoma, infection, metastases<br>*Enlargement without enhancement:* Chronic inflammatory demyelinating polyneuropathy (often has no enhancement) | SCLC, breast cancer, gynecologic malignancies, Hodgkin lymphoma | Anti-Hu/ANNA-1, anti-CRMP5, anti-amphiphysin, anti-Kelchlike protein 11 |

**Note:**—CASPR2 indicates contactin-associated proteinlike 2; CRMP-5, collapsing-response mediator protein-5; DNER, delta/notchlike epidermal growth factor; G-AchR, ganglionic acetylcholine receptor; LGI-1, leucine-rich glioma-inactivated protein 1; mGluR, metabotropic glutamate receptor; SCLC, small cell lung cancer.