Anti-Hu and you

Key Points:
• The anti-Hu Ab is a polyclonal IgG which binds to tumors and neuronal cells causing damage
• The neurologic symptoms typically precede the cancer and most common presentations include: sensory neuropathy, cerebellar degeneration, cortical encephalitis, or multifocal findings.
• The syndrome is most often associated with SCLC but can be others – tumors usually are small and limited (no cancer is detected in 12-15% of patients)
• Prognosis is poor and most patients die of encephalomyelitis complications.

Anti-Hu Antibody Syndrome

Definition
• A subacute sensory neuropathy and/or encephalomyelopathy associated with high titers of the anti-Hu antibody in the patient’s serum

Pathophysiology/Pathology
• Anti-Hu Ab is a polyclonal IgG which fixes complement
• Binds to the Hu antigen which is found in neuron nuclei, all SCLC, 70% neuroblastomas, and a small percentage of other tumors
• The Ab bind to neurons and cause damage but bind to the cancer as well and, interestingly, patients with low titers of Anti-Hu Ab actually do better than patients without
• Ab binding results in neuronal destruction, inflammation, and gliosis (fibrosis/astrocytosis)

Epidemiology
• Median age 63 yrs, M > W, cancer not detected in 12-15%

Clinical Findings
• Neurologic symptoms nearly always precede evidence of cancer
• One study of 200 patients with documented Anti-Hu Ab syndrome showed:
  ♦ Sensory neuropathy 54%
  ♦ Cerebellar 11%
  ♦ Cortical encephalitis 10%
  ♦ Brainstem 6%
  ♦ Sensorimotor neurop. 5%
  ♦ Dysautonomia 4%
  ♦ Multifocal 11%
• Limbic encephalitis: acute or subacute mood/behavior change, memory problems, dementia
• GI symptoms: typically chronic pseudo-obstruction
• Most symptoms reach a peak in 2-3 months – usually severe disability
• Many will progress to have multifocal disease

Cancer Association
• Note most malignancies are small and limited (not metastatic)
• Neoplastic diagnoses are most typically:
  ♦ Lung 86% (66% SCLC, 11% Xray dx, 9% Non-SCLC)
  ♦ Extrathoracic 14% (prostate 4%, GI 4%, breast, bladder, etc.)

Treatment
• No specific treatment for paraneoplastic syndrome
• Less than 40% will stabilize or improve w/ treatment of cancer

Prognosis
• Twelve month survival – 47% (most die of paraneoplastic encephalomyelitis)
References:

