



When the brain is a-lung for the ride: An 11-year-old with altered mental status, difficulty walking, and cough.

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Background

- In children and adolescents, encephalitis most often presents with fever (80%) and seizures (78%) but can manifest with a variety of neurologic changes.
- Etiology can be infectious, post infectious, autoimmune, metabolic, or toxic.
- Prompt evaluation and treatment is critical as neurologic sequelae may persist long term

Clinical Presentation

An 11-year-old with mild developmental delay and 9 days of cough developed difficulty walking, slowed speech, confusion, and unusual eye movements.

- (+) difficulty with dressing herself, toileting, incontinence, running into walls, wobbly gait
- (-) fevers, chills, vision changes, seizure activity
- CXR with a right middle lobe pneumonia prompted a dose of ceftriaxone prior to arrival

Physical Exam

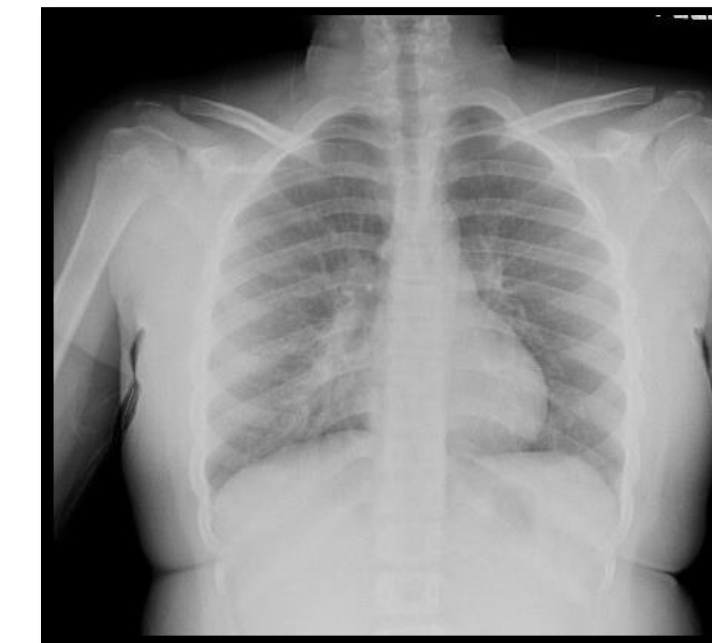
BP 118/80, HR: 96, RR:14, Temp: 36.6

- Slow to answer questions, jerky eye movements, confused appearance. Oriented to self and age, but not location
- Nasal congestion, normal lung exam
- 3+ DTR biceps, brachioradialis, patella, achilles.
- Upgoing Babinski, 2-3 beats of clonus.
- Unsteady on feet with shuffling gait. Slow finger to nose. No ataxia but slow speech.

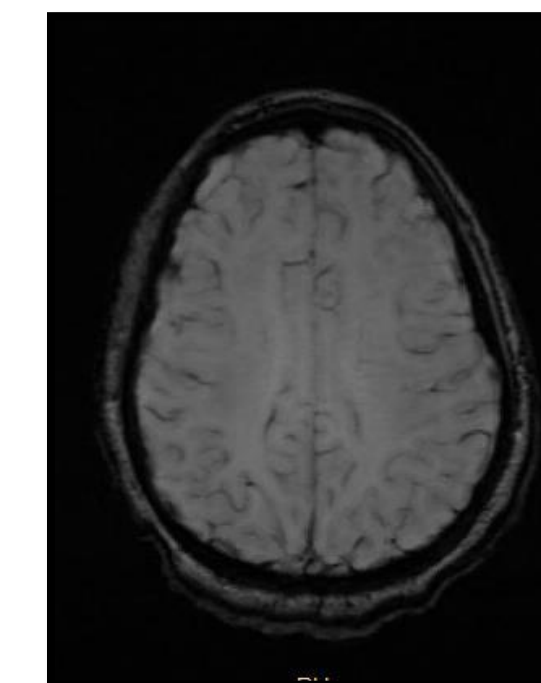
Results

Infectious Workup	
RVP	Mycoplasma Pneumonia
CSF Nucleated Cells	17
CSF RBCs	ESR
CSF Protein	CRP
CSF Glucose	
Autoimmune Workup	
ANA	Positive 1:180
Oligoclonal banding	slightly Elevated IgG - 1.1
Thyroid Peroxidase Antibody	C3
Thyroglobulin	C4
Autoimmune Encephalopathy Panel	NMO AQP4 Ab
ENA	Anticardiolipin
Imaging	
CXR	Right Middle Lobe Pneumonia
MRI Head, Spine	Tonsillar hypertrophy, reactive retropharyngeal nodes

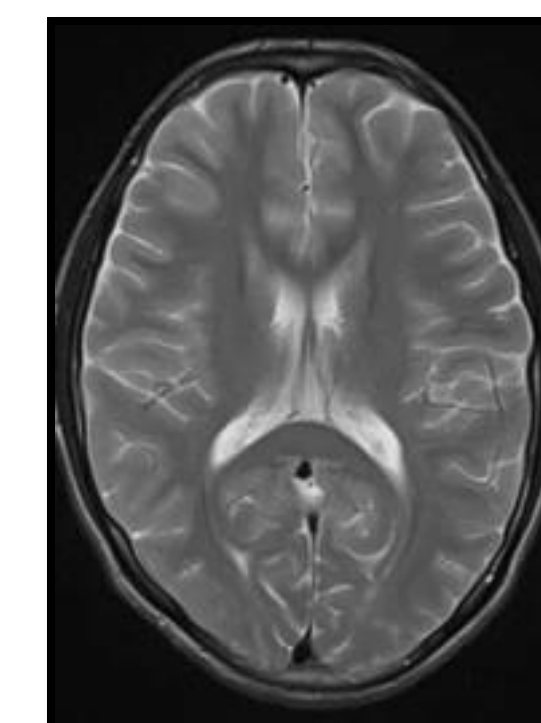
Results noted in black text returned as normal results



Right Middle Lobe Infiltrate



Normal MRI Brain (This patient)



Diffuse enhancement with corpus callosum involvement which has been documented in other patients with mycoplasma encephalitis

Conclusions

- ❖ Mycoplasma infections have a variety of manifestations. Neurologically, acute encephalitis, cerebellar ataxia, ADEM, and transverse myelitis are most common.
- ❖ The patient's respiratory symptom prodrome, CXR findings, encephalopathy in conjunction with positive nasopharyngeal PCR, confirms a diagnosis of mycoplasma encephalitis.
- ❖ After azithromycin was added to her pneumonia treatment, her mental status returned to baseline in about 48 hours.

Discussion

- ❖ Infectious encephalitis is usually thought to be caused by enteroviruses, respiratory viruses and herpes viruses, but mycoplasma may play a larger role than we think.
- ❖ Adverse neurologic outcomes (focal seizures, neurologic deficits) may result, so detection using nasal swabs and treatment are important.
- ❖ CSF studies typically reveal a lymphocytic pleocytosis, elevated protein, normal glucose. Occasionally, mycoplasma can be detected in the CSF, but more often, a nasopharyngeal PCR swab is positive.
- ❖ There is little data to support a specific treatment for mycoplasma encephalitis, but use of macrolides, steroids, and IVIG are most common and are supported by observational studies.