House Divided

### Prompt:  
  
"I am presenting a case of a 14-year-old deaf male wrestler who has recently experienced unusual auditory phenomena, specifically 'hearing' loud explosions despite being profoundly deaf due to previous meningitis. He has a history of ongoing seizures and his medical history includes dehydration, and he also presents new-onset vision changes, including transient blindness in one eye. He is actively using chewing tobacco to cut weight for his wrestling competitions.   
  
A complete workup reveals the following:  
- Initial imaging studies showed no suspicious lesions but noted slight bowing of the fourth ventricle.  
- An MRI ruled out brain tumors associated with his symptoms.  
- The patient has since developed weakness and significant respiratory distress leading to hospitalization.  
  
Given these symptoms and his background, what differential diagnoses should be considered, and what specific diagnostic tests would you recommend to confirm the underlying issue?"  
  
### Expected LLM Response:  
  
"In this clinical scenario, the patient's combination of profound deafness, seizures, auditory hallucinations, transient visual disturbances, and significant respiratory distress aligns with several potential differential diagnoses. Below are some considerations and recommended tests:  
  
Differential Diagnoses:  
  
1. \*\*Sarcoidosis\*\*: Particularly with multi-system involvement, sarcoidosis can present as pulmonary symptoms, CNS involvement leading to seizures and neurological manifestations, and may impact the larynx resulting in atypical vocal patterns in patients who are deaf.  
  
2. \*\*Eosinophilic Pneumonitis\*\*: This condition could feasibly explain the respiratory distress and may present similarly to sarcoidosis with an inflammatory response in the lungs. Considering his use of chewing tobacco, this could serve as a contributing factor.  
  
3. \*\*Infectious Etiologies\*\*: Considering his history of meningitis, a reactivation or residual effect causing chronic encephalitis or other systemic responses could be responsible for seizures and auditory symptoms.  
  
4. \*\*Toxicity from Chewing Tobacco\*\*: The use of chewing tobacco and the resultant nicotine toxicity or vasospastic reactions could lead to arrhythmias or potentially contribute to his acute presentation.  
  
5. \*\*Neurogenic Contributions\*\*: Given the transient blindness and very specific auditory sensations (exploding head syndrome), neural pathways involving the brain's processing of sensory information may be compromised, likely due to inflammatory processes.  
  
Recommended Diagnostic Tests:  
  
- \*\*CT or MRI with contrast\*\*: To evaluate for potential lesions or vascular abnormalities that might not be clearly visible with non-contrast imaging.  
   
- \*\*Pulmonary Function Tests\*\*: Assess to evaluate lung function and any possible restrictive patterns that might suggest sarcoidosis.  
  
- \*\*Thyroid Panel\*\*: As thyroid dysfunction can lead to various neuropsychiatric symptoms, this would be prudent given the patient's complex presentation.  
  
- \*\*Bronchoscopy with lavage\*\*: To obtain samples for cytology and histopathology, focusing on ruling out eosinophilic or infectious processes.  
  
- \*\*EEG (Electroencephalogram)\*\*: To evaluate ongoing seizure activity potentially related to cerebral pathology.  
  
Given the history of smoking and the rapid onset of symptoms, sarcoidosis should remain high on the differential list, particularly as it can present aggressively under specific conditions such as cessation of tobacco use."  
  
### DISEASE:  
Sarcoidosis