Both Sides Now

### Prompt:  
  
"I have a 28-year-old male patient presenting with sudden-onset neurological symptoms that include difficulty with coordination and control of his left upper limb. His left hand appears to have a mind of its own, often performing actions he does not intend, leading to awkward and embarrassing situations. The patient has a history of frequent temporal lobe seizures for which he underwent a surgical procedure to sever the connections between the two hemispheres of his brain. Recently, he has also been experiencing severe insomnia and episodes of vivid hallucinations, including interactions with people who are not physically present.  
  
Initial evaluations showed:  
  
- Neurological Exam: Clear cranial nerves. However, there’s a marked difference in coordination between the left and right sides, particularly impacting the left hand.  
- MRI of the brain: Revealed previous surgical alterations in the corpus callosum but showed no new lesions or signs of additional acute pathology.  
- Blood tests: Showed normal results for common metabolic or infectious causes.  
  
The patient's mood has fluctuated with increasing episodes of affective instability, contributing to his overall distress. He reports difficulty in maintaining relationships due to these peculiar and sometimes disruptive behaviors attributed to his left hand.  
  
What differential diagnoses should be considered based on this clinical presentation, and what additional tests would you recommend to further clarify the diagnosis?"  
  
### Expected LLM Response:  
  
"In this scenario, the patient's symptoms suggest the presence of a neurological disorder specifically linked to complications following surgical intervention for his seizures. Here are the differential diagnoses and further investigation recommendations:  
  
Differential Diagnoses:  
  
1. \*\*Alien Hand Syndrome\*\*: This condition is characterized by the left hand acting independently, which is consistent with the patient’s reports. Often results from damage to the corpus callosum or other brain structures involved in motor control and interhemispheric communication.  
  
2. \*\*Neurological Complications of Corpus Callosotomy\*\*: Post-surgical complications following callosotomy can result in disconnection syndromes manifesting as alien hand phenomena and emotional dysregulation.  
  
3. \*\*Psychosis or Affective Disorders\*\*: Persistent hallucinations and mood fluctuations could indicate an underlying affective disorder or psychosis exacerbated by neurological issues, particularly if they fluctuate with the neurological symptoms.  
  
4. \*\*Seizure Activity\*\*: It is crucial to evaluate if subclinical seizure activity is present, contributing to his change in behavior and episodic symptoms.  
  
Recommended Diagnostic Tests:  
  
- \*\*EEG (Electroencephalogram)\*\*: To assess for any ongoing seizure activity, which might necessitate medical management or adjustment to his current treatment plan.  
  
- \*\*Neuropsychological Evaluation\*\*: To assess cognitive function, integration of information from both hemispheres, and potential psychiatric comorbidities.  
  
- \*\*Repeat MRI with advanced imaging techniques\*\*: Consider diffusion tensor imaging (DTI) to examine white matter integrity and connectivity changes post-surgery.  
  
- \*\*Psychiatric assessment\*\*: Given the patient’s vivid hallucinations and mood instability, a mental health evaluation may be beneficial to clarify and manage potential psychotic symptoms.  
  
By pursuing these investigations, a more accurate diagnosis can be established, leading to an effective management plan tailored to the patient’s needs."  
  
### DISEASE:  
Alien Hand Syndrome