A mysterious case of "post-vacation psychosis": Diagnostic dilemma and clinical reasoning

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• Acute psychotic presentations in young patients are often attributed to toxic or infectious etiologies.
• After common causes are ruled out, identifying a firm diagnosis remains a challenge.
• In this report, we present a young woman with new-onset, acute psychosis following a five-day trip to Cancun, Mexico.
• She managed her empirically as a case of anti-N-methyl-D-aspartate receptor (NMDAR) encephalitis.
• Here, we describe our clinical reasoning and diagnostic approach towards this acute and atypical presentation.
• A 23-year-old African American female with no significant past medical or psychiatric history was brought into the emergency department (ED) with new-onset acute psychosis.
• She had recently returned from a trip to Cancun, Mexico.
• Two days after returning home, she began to experience behavioral changes, hallucinations, disorientation, persecutory delusions, and memory loss.
• Family history and surgical history are non-contributory.
• She is not on any home medications, is sexually active, and uses marijuana twice a week.
• She denies any other illicit drug use.
• Upon arrival to the ED, she is afebrile and hemodynamically stable.
• Physical exam is otherwise unremarkable; meningeal signs are negative.
• Negative laboratory workup includes:
  • Toxic (ethanol, tricyclic antidepressants, oxycodone, propoxyphene, salicylate)
  • Infectious (HIV, HSV-1, HSV-2, RPR, N gonorrhoeae, C trachomatis, Lyme, West Nile, SARS-CoV-2, CSF analysis)
  • Immune-mediated (ANA, CSF NMDAR IgG, CSF oligoclonal bands)
  • Metabolic (CMP, ammonia, lipase, ferritin)
  • Neoplastic (AFP)
• CT head without contrast, MRI of the brain with and without contrast, and EEG are also all negative.
• A CT abdomen and pelvis reveal a crenulated right ovarian lesion measuring 2.5 x 1.6 cm.
• As ovarian teratomas are commonly seen in association with anti-NMDAR encephalitis, we maintained a high level of clinical suspicion for this potentially fatal condition and promptly initiated treatment with IV methylprednisolone.
• Our patient showed marked improvement on this regimen and was discharged without the need for a transfer to an inpatient psychiatric facility.
• She was asked to follow up on an outpatient basis with gynecology regarding further management of the ovarian lesion.

Some differential diagnoses considered were toxic encephalopathy, infectious encephalitis, brief psychotic disorder, SLE psychosis, and paraneoplastic encephalitis.

Toxic encephalopathy could explain the memory loss and behavioral changes, though would not explain the delay in onset of 2 days after return nor the symptom duration of 7 days.

Infectious encephalitis is supported by the elevated WBC and ANC, but laboratory workup for HIV, HSV-1, HSV-2, RPR, N gonorrhoeae, C trachomatis, Lyme, West Nile, SARS-CoV-2, CSF analysis were all negative.

Brief psychotic disorder could explain the hallucinations and delusions, but psychiatry consultation did not diagnose this and antipsychotics did not alleviate her symptoms.

SLE psychosis warranted workup given the commonly affected demographic of African American female of childbearing age, but ANA, which has 98% sensitivity for SLE, was negative.

Paraneoplastic encephalitis was suspected after discovery of the ovarian lesion and improvement with empiric IV methylprednisolone, but CSF NMDAR IgG later came back negative.

After a comprehensive workup excluding all other potential etiologies, we treated this as a case of CSF negative anti-NMDAR encephalitis.

Anti-NMDAR encephalitis is an autoimmune disorder first described in 2005 with an extremely variable presentation.

In young women, ovarian teratomas are a commonly implicated paraneoplastic syndrome associated with anti-NMDAR encephalitis.

Testing for NMDAR antibodies in the CSF is the gold standard due to the extremely high sensitivity and specificity.

Early treatment with surgical tumor removal and immunotherapy has been shown to result in favorable prognosis.

Though many patients do not respond to first-line immunotherapy, our patient demonstrated remarkable improvement in mentation and behavior after receiving IV methylprednisolone.

The presentation of anti-NMDAR encephalitis is highly variable, therefore providers must maintain a high degree of suspicion.

In atypical cases such as this, clinical judgment and decision-making should take precedence over diagnostic studies.

If missed, this severe, immune-mediated, paraneoplastic condition can quickly escalate and have devastating consequences.

Case Description

In this report, we present a young woman with new-onset, acute psychosis following a five-day trip to Cancun, Mexico.

Many young women of childbearing age present with symptoms consistent with an early pregnancy, but promptly upon medical evaluation pregnancy is ruled out.

Emergency encephalitis is supported by the elevated WBC and ANC, but laboratory workup for HIV, HSV-1, HSV-2, RPR, N gonorrhoeae, C trachomatis, Lyme, West Nile, SARS-CoV-2, CSF analysis were all negative.

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Figure 1. Immunological triggers of anti-NMDAR encephalitis.

https://psychscenehub.com/psychinsights/anti-nmda-receptor-encephalitis-a-synopsis/

Figure 2. CT abdomen and pelvis demonstrating crenulated right ovarian lesion (indicated by yellow arrow) measuring 2.5 x 1.6 cm.