

Case report of paraneoplastic cerebellar degeneration misdiagnosed as a functional neurological disorder

Amanda Pomerantz, DO, Andrew Coulter, MD, MA, Erin Dean, MD

Cleveland Clinic, Department of Psychiatry

Introduction

- Functional neurological disorder evaluations on the consultation liaison psychiatry service can be exceedingly difficult for all involved, including patients, primary services, and consultants.
- There can be significant symptom overlap between functional neurological disorders and organic neurological disease, especially when psychiatric symptomatology is involved, making accurate diagnosis difficult.

Case

- We present a case of a 60-year-old female admitted to the general neurology service for second opinion of new and progressive neurological symptoms over a six-month period, specifically difficulties with gait, tremor, speech, mood lability, and cognition.
- She had two previous admissions to an outside hospital and was evaluated by both psychiatry and neurology who felt her symptoms were likely anxiety related, with suspected functional neurological disorder.
- However, patient denied a history of anxiety prior to neurological symptom onset.
- Neurological work-up was started during the previous hospital admission, with results still pending at time of admission to our facility.
- Psychiatry was consulted on day three of admission for evaluation of anxiety and presumed functional neurological disorder.

Results

- During her admission, patient received intravenous methylprednisolone for five days with increased anxiety and poor sleep, which was successfully treated with clonazepam and mirtazapine.
- Lumbar puncture performed during her outside hospital admission resulted positive for anti-Yo antibodies during her admission at our facility, and she was diagnosed with paraneoplastic cerebellar degeneration (PCD).
- Whole-body PET scan was without evidence of malignancy.
- She was treated with five days of intravenous immunoglobulin, clonazepam was discontinued, and she was started on olanzapine for worsening anxiety.
- She was discharged home on a prednisone taper with plan for monthly intravenous immunoglobulin infusions.
- Olanzapine was discontinued following prednisone taper completion.

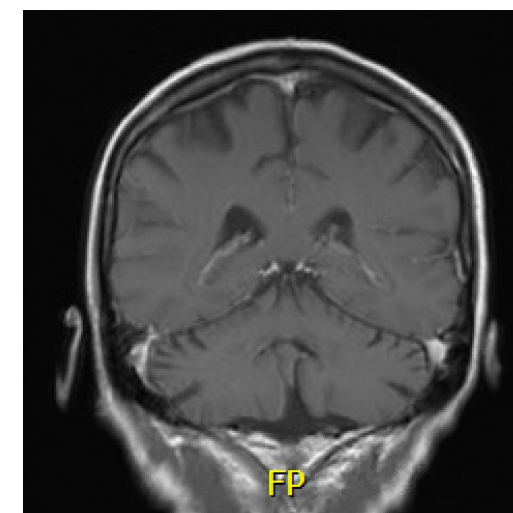


Figure 1. Case's T1-weighted MRI brain. No cerebellar atrophy noted, which is a typical finding early in disease presentation. Cerebellar atrophy has been noted to occur with disease progression

Discussion

- While it is well documented that psychiatric symptoms are common in many central nervous system inflammatory disorders, the psychiatric symptoms of paraneoplastic cerebellar degeneration are not well documented in the literature.
- There is one documented case of similar neurological symptomatology with associated anxiety that was also thought to be stemming from psychiatric causes, later found to be paraneoplastic cerebellar degeneration from underlying cancer.
- In addition, cognitive affective syndrome leading to behavioral changes has been reported, although rare in paraneoplastic cerebellar degeneration.

Table 1. Common presenting symptoms in paraneoplastic cerebellar degeneration

Dizziness	
Ataxia	
• Gait	• Difficulty ambulating, unsteadiness
• Trunk	• Difficulty sitting independently
• Limbs	• Postural and intention tremor
• Speech	• Dysarthria
• Eye Movement	• Oscillopsia, diplopia, nystagmus
Cognitive impairment	

Conclusion

- Paraneoplastic cerebellar degeneration often presents with progressive cerebellar signs, including ataxia, dysarthria, and cognitive deficits.
- However, as seen in our case, psychiatric symptoms such as new onset anxiety and mood lability can also be present in neurological disease.
- This can delay diagnosis, as symptoms can be incorrectly attributed to a functional neurological disorder.

References

- Birch JD, Sen A, Rowland K, Viner T. Paraneoplastic cerebellar degeneration secondary to ovarian carcinosarcoma: a cerebellar conundrum. *BMJ Case Rep.* 2017;2017:bcr2017220544. Published 2017 Aug 7. doi:10.1136/bcr-2017-220544
- Le May M, Dent S. Anti-Yo antibody-mediated paraneoplastic cerebellar degeneration associated with cognitive affective syndrome in a patient with breast cancer: a case report and literature review. *Curr Oncol.* 2018;25(6):e585-e591. doi:10.3747/co.25.4106
- Peterson K, Rosenblum MK, Kotanides H, Posner JB. Paraneoplastic cerebellar degeneration. I. A clinical analysis of 55 anti-Yo antibody-positive patients. *Neurology.* 1992;42(10):1931-1937. doi:10.1212/wnl.42.10.1931
- Vernino S, Subramony SH, Dürr A. Paraneoplastic cerebellar degeneration. In: *Handbook of Clinical Neurology*. Vol 103. Edinburgh, UK: Elsevier; 2012:215-223.