

Autoimmune Encephalitis with Catatonic Features after Hematopoietic Stem Cell Transplantation: Case Review and Review of Literature



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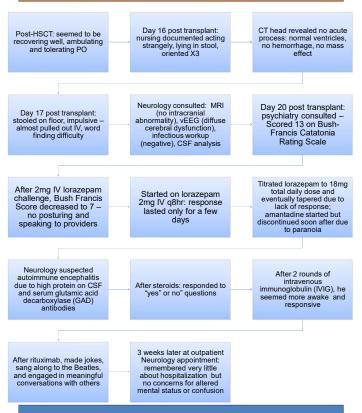
Background

- Hematopoietic Stem Cell Transplantation (HSCT) is a potentially curative treatment for many hematologic disorders.
- · Neurological complications after HSCT occur with an incidence of 3-44 percent.1
- · Complications include central nervous system (CNS) infections due to immunosuppression, neurotoxicity from conditioning agents and immunosuppressants, and autoimmune phenomena including manifestations of graft versus host disease (GvHD), myasthenia gravis, cytokine release syndrome, and autoimmune encephalitis.
- Cases of autoimmune encephalitis in the absence of CNS manifestations of GvHD are rare.
- · Autoimmune encephalitis represents a group of disorders in which the immune system attacks CNS resulting in diffuse brain inflammation and symptoms can include confusion, loss of consciousness, amnesia, seizures, and psychiatric manifestations.
- Catatonia, a disorder with psychomotor signs of stupor, rigidity, and waxy flexibility, has been closely linked to a specific type of autoimmune encephalitis, anti-N-methyl-D-aspartate (NMDA) receptor encephalitis.2
- Currently, there are no reported cases of catatonia associated with post-HSCT autoimmune encephalitis.

Case Presentation

- 66-year-old male with no past psychiatric history and medical history of coronary artery disease requiring percutaneous intervention
- Presented to the hospital for allogenic-HSCT for progressive mvelofibrosis
- Prior to HSCT, scored a 27/30 on Montreal Cognitive Assessment (MoCA)
- · Conditioning treatment regimen: Busalfan, Melphalan, Fludarabine with rabbit antithymocyte globulin (rATG)
- · Received allogenic-HSCT from his brother

Clinical Course



Serum and Cerebrospinal (CSF) Analyses

Serum		CSF Analysis		
Glutamic Acid Decarboxylase (GAD)	0.15	White Cell Count	1	Autoimmune Encephalop
Antibody		Protein	68	B-D glucans
C-reactive Protein (CRP)	5.16	Glucose	78	Oligoclonal
Erythrocyte	53			Bands
Sedimentation Rate		Gram Stain	Negative	JC Virus
		Meningitis/En	Negative	FRV

Diagnostic Criteria for Autoimmune Encephalitis³

working memory deficits or psychiatric symptoms

other causes

Discussion and Conclusion

Only a few cases of autoimmune encephalitis reported post-HSCT. None of the cases reported catatonic features.

Case Series⁴

- 54 y/o M, 65 y/o F, 63 y/o F
- Antibody-
- associated Myoclonic jerks, hemiparesis choreiform movements. visual loss and

paranesthesia

Negative

Negative

Negative

Negative

Negative

Case Report⁵

- 60 y/o F · antibodies against NMDA-
- type-glutamate receptor Acute short term memory loss. emotional lability

Peds Cases^{6,7}

- 5 v/o F
- · Anti-GAD antibodies

Reasonable exclusion of

- · Seizures, AMS
- 7 y/o M
- · LGI1 antibodies
- Attention deficit, abnormal movements, cognitive

dvsfunction

- · Conditioning regimens, used to prepare the bone marrow to receive donor cells and to reduce the chance of rejection, increase risk of autoimmune reactions.
- · Immune system dysregulation contributes to etiology of catatonia: acute phase reactants (i.e., CRP) increased in catatonia and association of NMDA receptor encephalitis with catatonia.2
- Disruption of immune system may not only increase risk of autoimmune encephalitis post-HSCT but also increase risk of catatonia.
- Consideration that first line treatments of catatonia *i.e.*. lorazepam may not be fully effective until treatment of underlying autoimmune encephalitis.
- Conclusion: Consultation-Liaison psychiatrists are well-poised to recognize catatonia in a medically ill population i.e., post-HSCT patients and make an association between catatonia and autoimmune encephalitis.

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