CASE REPORT

A previously healthy 55-year-old man with a 40 pack-year smoking history was admitted to a community Pennsylvania hospital in April 2013 presenting with Cotard delusion (the belief that one is dead) and unintentional 30 lb weight loss over several months. His medical and family history was unremarkable. At presentation, he showed significant psychomotor agitation requiring sedation. Testing revealed CSF leukocytosis and erythrocytosis, leading to a preliminary diagnosis of viral herpes encephalitis. As the patient continued to deteriorate, anti-NMDA receptor antibodies were detected in the CSF, yielding a diagnosis of anti-NMDA receptor encephalitis. Chest CT and left hilar lymph node biopsy confirmed small cell carcinoma of the lung.

Anti-NMDA receptor encephalitis is a rare paraneoplastic or autoimmune syndrome that may be the sign of an underlying malignancy, as demonstrated in this extraordinarily rare presentation. Caretakers should have a high degree of suspicion for this syndrome in patients with no neurologic or psychiatric history presenting with acute mental status changes.

was started, with carboplatin and etoposide administered every three weeks. The clinical condition remained unchanged. Four cycles of Rituximab were completed as second line therapy for anti-NMDAR encephalitis in addition to daily methylprednisolone infusions. The patient received two additional cycles of chemotherapy without change in status. Subsequently, he was transferred to inpatient hospice care, and died ~24 weeks later.

**DISCUSSION**

Anti-NMDA receptor encephalitis is a rare paraneoplastic or autoimmune syndrome, first described by Vitaliani et al. [1], most commonly associated with ovarian teratomas in young women. Dalmau et al., subsequently demonstrated that this syndrome is associated with antibodies to the NMDA receptor [2,3]. Definitive diagnosis requires positive CSF and/or serum titers for anti-NMDA receptor antibodies [4,5]. First-line immunotherapy (intravenous immunoglobulins, steroids, and/or plasmapheresis) and, if applicable, tumor removal, results in substantial neurological improvement in ~80% of patients within a median of 24 months [4]. Second-line therapy includes cyclophosphamide and/or rituximab [4]. Anti-NMDA receptor encephalitis may be the consequence of an underlying aggressive malignancy, as demonstrated in this extraordinarily rare case presentation. Caretakers should have a high degree of suspicion for this syndrome in patients with no psychiatric/neurological history presenting with acute behavior change, psychosis, and/or catatonia that may progress to include memory loss and seizures, among other symptoms [4]. As oncologists are commonly not the initial medical provider for these patients, communication between referring physicians and awareness of this syndrome remains crucial to optimize prognosis through early intervention.

**REFERENCES**


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