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**[Anti-Ma2, anti-NMDA-receptor and anti-GluRε2 limbic encephalitis with testicular seminoma: short-term memory disturbance].**

[Article in Japanese]

[Kubota A](https://www.ncbi.nlm.nih.gov/pubmed/?term=Kubota%20A%5BAuthor%5D&cauthor=true&cauthor_uid=22989902)1, [Tajima T](https://www.ncbi.nlm.nih.gov/pubmed/?term=Tajima%20T%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Narukawa S](https://www.ncbi.nlm.nih.gov/pubmed/?term=Narukawa%20S%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Yamazato M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Yamazato%20M%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Fukaura H](https://www.ncbi.nlm.nih.gov/pubmed/?term=Fukaura%20H%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Takahashi Y](https://www.ncbi.nlm.nih.gov/pubmed/?term=Takahashi%20Y%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Tanaka K](https://www.ncbi.nlm.nih.gov/pubmed/?term=Tanaka%20K%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Shimizu J](https://www.ncbi.nlm.nih.gov/pubmed/?term=Shimizu%20J%5BAuthor%5D&cauthor=true&cauthor_uid=22989902), [Nomura K](https://www.ncbi.nlm.nih.gov/pubmed/?term=Nomura%20K%5BAuthor%5D&cauthor=true&cauthor_uid=22989902).

**Abstract**

A 36-year-old man presented with cognitive impairment and disturbance of short-term memory functions with character change. Cerebrospinal fluid analysis revealed no abnormalities; however, brain MRI revealed high-signal intensity from bilateral hippocampus lesions on fluid attenuated inversion recovery (FLAIR) images and T(2) weighted images. The 18F-fluorodeoxyglucose PET demonstrated high glucose uptake in the bilateral hippocampus lesions. He was diagnosed as limbic encephalitis, and was administered high-dose intravenous methylprednisolone and immune adsorption plasma therapy followed by intravenous immunoglobulin therapy. MRI abnormalities improved after treatment but recent memory disturbance remained. Ma2 antibody, NMDA-receptor antibody, and GluRε2 antibody were positive. Eleven months atter the onset of disease, the tumor was identified in left testicle by ultrasound and removed the tumor. The pathological findings were seminoma. We experienced a case of paraneoplastic limbic encephalitis associated with seminoma with short-term memory disturbance. The occurrence of paraneoplastic limbic encephalitis with antibodies against cell membrane (NMDA-receptor antibody and GluRε2 antibody) and intracellular (Ma2 antibody) is rare even in the literature.