



# AUTOIMMUNE LIMBIC ENCEPHALITIS ASSOCIATED WITH TYPE 1 DIABETES MELLITUS\*

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## BACKGROUND

Limbic encephalitis (LE) is a neurological disorder characterized with amnesia, seizures, personality changes. LE is usually considered as paraneoplastic disorder. Infections, paraneoplastic disorders and autoimmunity should be considered in LE etiology. Association of type 1 diabetes mellitus and LE is very rare. Here in we report a patient who was diagnosed with type 1 diabetes mellitus (T1DM) six months after LE occurrence.

## CASE

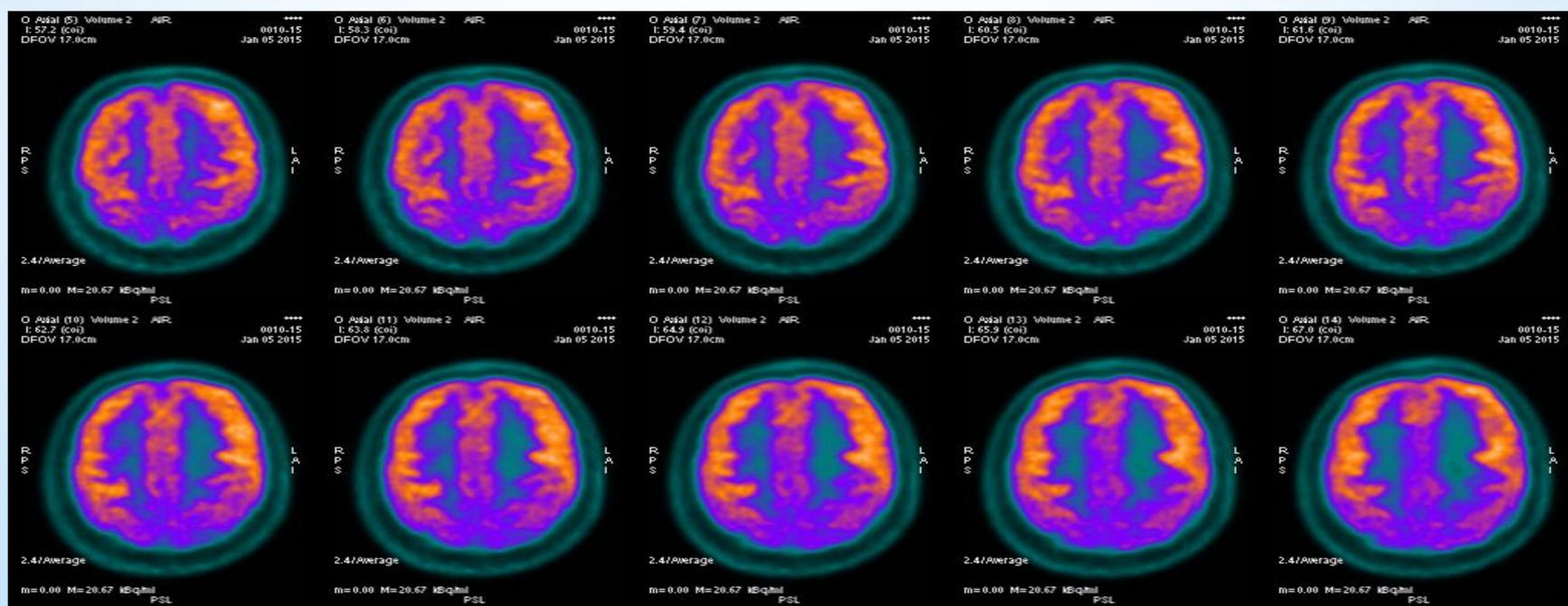
A 17-year-old boy was admitted to the emergency department with amnesia and personality changes. Laboratory tests of viral infections and autoantibodies were negative. Fluorine-18 fludeoxyglucose positron emission tomography and electroencephalography revealed findings of limbic encephalitis. Despite negative antibody results idiopathic limbic encephalitis was considered. Pulse steroid were administered during 5 days. After steroid treatment symptoms improved but hyperglycemia occurred on the third day of treatment. His glycemia level reached 502 mg/dl. Concurrent insulin level was 42  $\mu$ IU/mL and C peptid level

was 3,3 ng/ml. Insulin infusion was administered. Hyperglycemia improved after cessation of steroid treatment and he was considered as steroid induced hyperglycemia. After discharge he was lost to follow up.

After 6 months he was diagnosed with limbic encephalitis he administered with dyspnea and abdominal pain in emergency department. Laboratory findings were as follows: serum glucose 386 mg/dL, arterial blood gas analysis (pH 7.1, HCO<sub>3</sub> 8.5 mmol/L), serum osmolality 285 mOsm/kg, glycosylated hemoglobin (HbA1c) 12.6%, insulin 1,8 (2.6-24.9)  $\mu$ IU/mL, C-peptide 0,3 (1.1-4.4) ng/mL,. Islet cell antibody was positive, anti glutamic acid decarboxylase (anti-GAD ) was >2000 IU/ml (0-10). He was diagnosed with type 1 diabetes. Patient's spinocerebral liquid analyses revealed high anti-GAD levels as etiology of limbic encephalitis.

## CONCLUSION

Type 1 diabetes mellitus and limbic encephalitis pathogenesis are similar because of anti GAD antibodies. Limbic encephalitis are considered T1DM patient's neurologic and psychiatry symptoms occurrence.



\*There is no conflict of interest