

# The clinical diagnosis and treatment about 22 cases of limbic encephalitis were retrospectively analyzed

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**Abstract:** To summarize and analyze the clinical characteristics and treatment of limbic encephalitis, in order to provide the basis for clinical work. We retrospectively analyzed the clinical characteristics, magnetic resonance imaging (MRI), cerebrospinal fluid (CSF) and self immune antibody results of 22 patients with limbic encephalitis in Zhengzhou people's Hospital from March 2013 to May 2014. 22 cases of patients with psychiatric disturbance, such as hallucinations being typical clinical manifestations: Memory decline in 18 cases; Seizures in 13 patients; Altered level of consciousness in 10 cases; Movement disorders in 7 cases and 9 cases with febrile. 14 cases have relieved after treating with antiviral and immunosuppressive therapy, 5 cases left memory decline, 2 patients left overwhelmingly excited, 1 cases of seizures. The clinical symptoms of patients with limbic encephalitis are complicated changeable and unspecific. so earlier diagnosis and treatment are very important for the prognosis of patients.

**Keyword:** limbic encephalitis; immunosuppressive therapy

## INTRODUCTION

Limbic encephalitis is a kind of nervous system inflammatory disease, which is characterized by psychiatric symptoms and memory decline. Since 1968, the Gorsellis first proposed and described the clinical characteristics of limbic encephalitis, Scholars began to pay more attention to this disease. Along with the progress of inspection equipment, limbic encephalitis is not a low incidence of disease. We retrospectively analyzed the clinical characteristics of 22 patients with limbic encephalitis in Zhengzhou people's Hospital. The aim is to improve the cure rates of patients by earlier diagnosis.

## CLINICAL DATAS AND METHODS

### *Clinical data*

22 cases in this group, 9 were male and 13 female, Age range 35-68 years old (mean age 53 years), The illness characterized by acute or subacute onset and 9 cases had a history of fever, 22 cases of patients with psychiatric disturbance, such as hallucinations being typical clinical manifestations: memory decline in 18 cases; seizures in 13 patients; altered level of consciousness in 10 cases; movement disorders in 7 cases and autonomic nervous function disorder in 5 cases, 2 cases of which Including abdominal distention and urinary retention. headache in 8 cases.

### *Accessory examination*

22 patients were performed cranial magnetic resonance imaging (MRI) scan and enhancement, electroencephalogram (EEG), cerebrospinal fluid and

serum antibody, tumor screening and other related inspection. MRI: 4 cases showed bilateral hippocampus and temporal lobe lesions, 3 cases of bilateral hippocampus, 4 patients of unilateral lesions, 2 patients of unilateral temporal lobe lesions, 3 cases of brain stem lesions, 2 cases of basal ganglia lesions and 4 normal. The main showing of T1W1 was low signal change, T2W2 and FLAIR were high signal changes, 10 cases of enhanced scan were slightly, and 8 cases were not. 4 patients had no specific changes. EEG: 9 patients of mild EEG abnormalities, 13 cases of moderate and severe abnormal. The main manifestation is temporal lobe epilepsy. Cerebrospinal fluid: Intracranial hypertension in 10 cases (The highest were 210 mmH<sub>2</sub>O), 18 cases of cerebrospinal fluid cells increased (The highest were 90\*10<sup>6</sup>/L, Lymphocyte based 94%, glucose and chloride are normal). 13 cases of high protein (The highest were 167.63mg/dl), 4 cases were normal. 5 patients were positive for anti NMDA antibody in serum and cerebrospinal fluid in which 1 case with non-small cell lung cancer and 1 cases of lung cancer and 1 cases of ovarian cancer were diagnosed during follow-up. Other patients had no tumor lesions.

### *Treatment method*

22 patients started Aciclovir Injection antiviral therapy after excluding cerebral vascular disease. 5 cases who had anti-NMDA antibody were treated with gamma globulin injection 0.4g/Kg/d treatment, for 5 days. 1 patients with lung cancer were given Surgical treatment, the others were given gamma globulin injection 0.4g/Kg/d treatment for 5 days after excluding Viral encephalitis, systemic lupus erythematosus, etc. 6 patients due to economic reasons were treated with Me prednisone 500mg/d for 5 days. then oral treatment for 1 months.

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## RESULTS

In 22 patients, there were 14 patients with clinical symptoms relieved, 5 cases left memory decline, 2 patients left overwhelmingly excited, 1 case of seizures. The patient's symptoms were not repeated in the following year.

## DISCUSSION

1968 Gorsellis first proposed and described the concept of limbic encephalitis (also called paraneoplastic LE) and from then it has attracted the attention of scholars at home and abroad along with the further research. Currently according to the causes of this disease, LE is mainly divided into infectious encephalitis, autoimmune encephalitis and autoimmune disease associated with limbic encephalitis. The autoimmune encephalitis is also divided into tumor associated encephalitis and non tumor correlation (Zhaohui *et al.*, 2011). Although its clinical classification is different, LE mainly violate the limbic system, which leading to its functional damage, and it often can spread to the other brain tissue than the limbic system (Gultekin *et al.*, 2000; Lawn *et al.*, 2003). FLORIL (Kamble *et al.*, 2015) describes the clinical characteristics of different types of LE, the typical symptoms are psychotic symptoms, memory loss, epilepsy, movement disorder, consciousness level changes, autonomic function disorder, over ventilation and so. Before the onset of the disease, some patients have a history of cold, fever, headache, fatigue and so on. In this group, there were 22 patients, the main clinical manifestations were symptoms, memory decline and seizures. The main form of psychotic symptoms was hallucinations, psychosis, insomnia and so on. There was 1 case who was diagnosed with "psychosis disease" in the local hospital, he was treated with psychosis drugs, the symptoms are partial remission. Because the disease is not treated in time. The patient's condition began to progress in the memory loss, the autonomic nervous system disorders, abdominal distension, urination disorder, the patient finally left memory decline after treatment. Vedeler had similar reports (Vedeler *et al.*, 2009). The patient intelligence decline is mainly for the near memory loss. Seizures are mainly in two forms, partial seizures and generalized seizures. In this group of patients, 3 cases of brain magnetic resonance imaging were brainstem lesions, 2 were external vertebral body lesions, 9 cases had a history of fever, consistent with the literature report.

Diagnostic criteria of LE mainly refer to the diagnostic criteria of the 2004 European work network revised (Graus *et al.*, 2004), Performance for acute or sub acute (several days or up to 12 weeks) onset of seizures, short-term memory loss, confusion and mental symptoms.  $\alpha$ Evidence of the limbic system impaired neuropathology

or imaging.  $\beta$ Exclusion of other causes of dysfunction of the limbic lobe.  $\chi$ the tumor was found in 5 years after the symptoms of nervous system were found in the patients, Patients with typical symptoms of impaired limbic lobe function and associated with characteristic antibodies, Such as anti Hu, Ma2, CV2, Ri antibody and so on. But the diagnosis standard is mainly for tumor associated limbic encephalitis, It does not include atypical cases, which may lead to missed diagnosis and misdiagnosis. For example, Gu Furong (Gu *et al.*, 2014) analysed the diagnosis and treatment of four cases with limbic encephalitis which was mainly based on clinical manifestations, magnetic resonance, cerebrospinal fluid and serum antibody test results and there are not specific. In our group, 5 patients were positive for anti NMDA antibody in serum and cerebrospinal fluid, in which 1 cases with non small cell lung cancer and 1 cases of lung cancer and 1 cases of ovarian cancer were diagnosed during follow-up. Other patients had no tumor lesions. May be the follow-up time was short. 60%~70% patients with paraneoplastic as the first manifestation of nervous system symptoms, and then found the tumor, and therefore patients who were not found tumor, still need to follow-up, according to the diagnostic criteria for 5 year at least. In our follow-up, 1 cases of lung cancer and 1 cases of ovarian cancer were examined. It is also suggested that the patients with LE should be identified with viral encephalitis and other autoimmune encephalitis. Wang Dong (Dong *et al.*, 2013) described the characteristics of the cerebrospinal fluid in the limbic encephalitis, mainly for the inflammatory changes. 80% cerebrospinal fluid showed lymphocytes increased, the protein increased, glucose sugar and chloride were normal, and the immune antibody was positive. There was no specific expression in some patients (Jarius *et al.*, 2008). In our group, 16 cases of patients with cerebrospinal fluid increased, mainly in the increase of lymphocytes, suggesting that inflammatory lesions. Xiang Wei (Wei *et al.*, 2012) described the imaging features of the typical LE patients, which showed that the T1 low signal, T2 and FLAIR high signal changes in the limbic system of unilateral or bilateral temporal lobe, hippocampus, amygdala and insular lobe. In our group, 13 cases of brain magnetic resonance imaging changes in the temporal lobe, hippocampus, consistent with the anatomical structure of the limbic system.

At present, the literature about the treatment of limbic encephalitis was cases report and the clinical experience was insufficient. Early diagnosis and treatment can improve the prognosis of patients, If treatment were delayed, it can cause irreversible brain tissue damage, prognosis was poor (Bien *et al.*, 2007). The general view is that according to the pathogenesis, tumor associated limbic encephalitis needed to have tumor resection and immune treatment, it is recommended to start immune treatment immediately for patients who haven't tumor

lesions, Virus infection or cannot be excluded, should also be given acyclovir antiviral therapy (Ty *et al.*, 2007). The diagnosis of LE is not specific, which mainly depends on the clinical experience and the comprehensive analysis of the auxiliary examination. In our group, 22 patients started Aciclovir Injection antiviral therapy after excluding cerebral vascular disease. 5 cases who had anti NMDA antibody were treated with gamma globulin injection, 1 patients with lung cancer were given Surgical treatment the others were given gamma globulin injection and Me prednisone after excluding Viral encephalitis, systemic lupus erythematosus, etc. there were 14 patients with clinical symptoms relieved and were not repeated in the following year. According to our clinical diagnosis and treatment experience and literature review, early immune therapy in LE mitigation and prognosis is critical. Therefore, patients with clinical diagnosis of LE, early diagnosis, treatment, can improve the prognosis.

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