

**Clinical application of reverse-transcription  
polymerase reaction and intravenous immunoglobulin  
for enterovirus encephalitis**

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摘要

**Abstract**

Although polymerase chain reaction (PCR) is a highly sensitive procedure for the diagnosis of enteroviruses, it has never been systemically applied to the treatment of enteroviral encephalitis using intravenous immunoglobulin (IVIg). We conducted a 2-year randomized, controlled comparison of reverse transcription (RT)-PCR of cerebrospinal fluid (CSF) with traditional viral isolation to guide IVIg treatment. Seventy-five patients were enrolled and classified into three groups: one group with clinical manifestations of enteroviral infections and two without. The latter two groups were separated on the basis of whether IVIg treatment was guided by RT-PCR or virus culture assay. CSF specimens from the 18 confirmed cases of enteroviral encephalitis were RT-PCR positive for enterovirus in all but one case. Of the remaining 57 cases of nonenteroviral encephalitis, only 4 were positive for enterovirus RT-PCR. One patient in the group of IVIg treatment guided by viral isolation subsequently displayed a sequel of epilepsy. No patients in the IVIg treatment groups guided by RT-PCR had any neurological sequelae. In conclusion, the use of RT-PCR allowed rapid, sensitive, and specific detection of enteroviral RNA in CSF. When used to guide IVIg treatment, RT-PCR may shorten hospitalization and improve outcomes of patients with enteroviral encephalitis.

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