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Case Report PHYSICAL THERAPY AND REHABILITATION

Early rehabilitation results in a child who developed herpes simplex encephalitis

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ABSTRACT

In this case, a 4-year-old girl was admitted to the emergency service with the complaints of a sudden onset of fever, shortness of breath, jerking motions of the hands and feet and a sliding mouth. Her condition deteriorated, and she was kept under observation in the intensive care unit for 6 days. The Glasgow Coma Score of the patient was 1. Lumbar puncture revealed a white blood cell count of 0 and cerebrospinal fluid was positive for herpes simplex virus 1 and 2. Antiviral therapy was administered for 14 days. One month earlier, the patient had experienced a herpes labialis infection, which suggested herpes simplex encephalitis (HSE). Cranial magnetic resonance imaging indicated significant bilateral cerebral ischemic changes, which also supported suspicion of HSE. After antiviral treatment, the patient was referred to the department of physical therapy and rehabilitation. The Functional Independence Measure for Children (WeeFIM) scale was used to evaluate the patient. A 30-session rehabilitation program based on the Bobath concept of neurodevelopmental therapy was implemented. Before the treatment, the WeeFIM score was 20 points, and at its conclusion, the score was 88 points. The patient began to walk without limitation and the choreoathetosis was almost completely corrected. The patient was discharged with medical treatment and a home-based exercise training program.

Keywords: Herpes simplex encephalitis; rehabilitation; pediatric.

A 4-year-old girl born at full-term was presented at the clinic with a sudden onset of fever, shortness of breath, jerking movements of the hands and feet, and a sliding mouth. Herpes labialis infection experienced 1 month prior suggested herpes simplex encephalitis (HSE). Subsequent cranial magnetic resonance imaging demonstrated bleeding foci manifesting as intensities on the bilateral temporal regions, though more predominant on the right side, and ischemic changes in the same regions, the left insular cortex, and all over the right temporal lobe (Fig. 1). The increase in meningeal contrast on the right side in contrast-enhanced sections was particularly noteworthy, and all of these findings were considered to indicate the presence of HSE. Once antiviral treatment was completed, the patient was referred to the department of physical therapy and rehabilitation. Neurodevelopmental treatment

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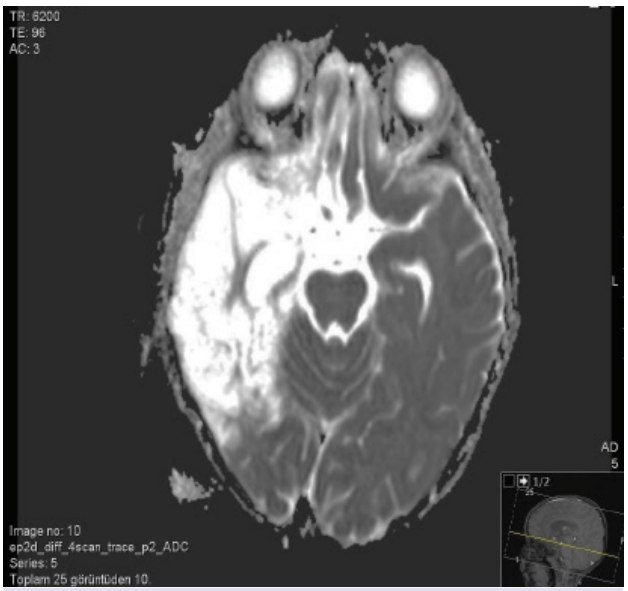

FIGURE 1. The first cranial magnetic resonance image obtained.

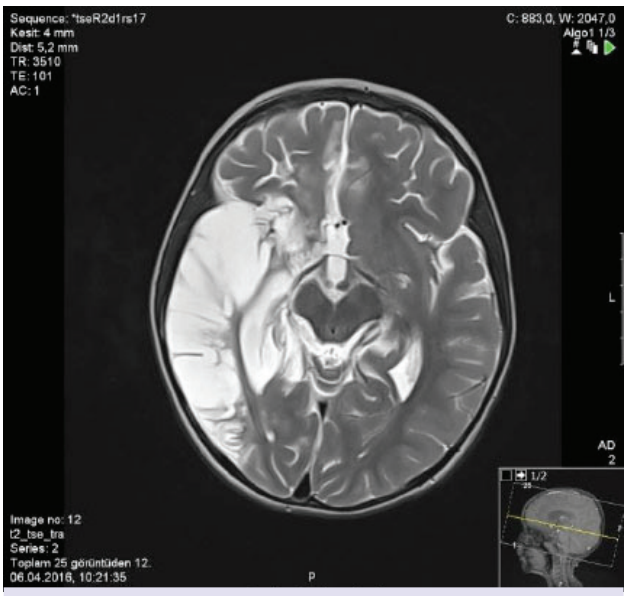

FIGURE 2. Cranial magnetic resonance image obtained 6 months later.

based on the Bobath concept was applied in 30 sessions of a rehabilitation program.

Encephalitis is a clinical entity in which findings of meningeal and cerebral involvement, as well as cellular reaction and increased protein levels in the cerebrospinal fluid are found. Many agents of infection affect central nervous system; however, the herpes simplex virus (HSV) has infrequently been reported among them [1]. The annual global incidence of encephalitis caused by HSV has been reported to be 1/250.000 to 1/500.000 [2].

In cases where neurological sequelae develop, early-stage rehabilitation is important to normalize sensory and motor processes, to ensure correct posture, independent functional activity, regulate muscle tonus, develop audiovisual reactions, enable motor control, and to increase the quality of movements [3]. The role and importance of early-stage rehabilitation have become prominent given the frequency of neurological sequelae. At the end of the rehabilitation program, our patient could walk without restriction, and the choreoathetoid movements and the ignore phenomenon of the left side had almost completely been eliminated. Her Functional Independence Measure for Children (WeeFIM) scale evaluation before the treatment was 20 points, and at its conclusion, the score was 88 points. The magnetic resonance image of the patient after six months is shown in Figure 2. The patient was discharged after prescribing medical treatment and home-based exercise training. In this case, the rehabilitation program significantly improved the functional status of the patient and corrected her deficits.

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