Treatment of pharmacological resistant forms of epilepsy in the case of Lennox-Gastaut syndrome

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Introduction: The problems of development of infants' brain are known to be complex and urgent because the success of solving these problems increases quality of life in childhood and adolescence. One of these problems is epileptic encephalopathy (EE) in infants. There is a wide variety of this syndrome, what makes the diagnostics very difficult (West, Lennox-Gastaut syndrome (LGS) etc.). The main role in establishing of diagnosis plays EEG with video monitoring that shows hypsarrhythmia of the waves. However, the clinical course in combination with hi-tech examination is strongly recommended.

Aim: The aim of investigation was optimization of methods of treatment of pharmacological resistant forms of epilepsy that can be illustrated by the case of the two-year boy with symptomatic Lennox-Gastaut syndrome.

Materials & Methods: The diagnosis was based on the routine examination and clinical manifestations (seizures appeared with different periodicity). The child was ill since birth and treated with different combinations of antiepileptic drugs (AED). The treatment was unsuccessful, what forced us to find another approach. Tablets of hydrocortisone were prescribed in the start dose of 1.0 mg per 1 kg of body weight (according to professor Olivier Dulac's scheme), followed by decreasing of dose up to 2 mg. The treatment was carried out during five months. EEG with video monitoring was carried out during 8 hours in active and passive wake, night sleeping and after awaking.

Results: First EEG examination provided, when child was 1 year old, showed “sharp slow wave”, “spike-, polyspike-and-waves” complexes in the right parieto-temporal area. In the left one were registered “sharp slow wave” and “spike-and-wave” complexes with reverse of phase under the electrodes P3 and T5. Physiological patterns of sleeping were weakly manifested and periodically were substituted by epileptiform activity. In the middle of therapeutic course the child became seizure-free and considerable more active and some life skills developed. During the one-year follow-up period was not revealed any seizures, though the child did not take AED or hormones. EEG registered just single complexes “sharp slow wave” with amplitude up to 100mcV in left temporal area of the brain with reverse of phase under the electrodes T3, T5. There were not any pathological movements during the sleeping. As result of a treatment was also observed obvious development of child's brain, which was manifested in physical and mental activity.

Conclusion: Thus, we can conclude that early beginning of individually selected therapy in infants with EE and LGS gives the possibility for the normal development of their brain that may be seen in the normalization of physical and mental development.

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