Neurosurgical treatment of intractable sleep disturbances in children with autism

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Focal cortical dysplasia is the most common cause of focal intractable epilepsy in children. According to the ILAE classification there are 3 basic forms of FCD. As diagnostic methods become more sophisticated more often FCD’s are recognized as the cause of epilepsy. With the advancement of neurosurgical techniques, surgical procedures are becoming an important element of treating epilepsies.

We would like to represent 2 of our patients with intractable epilepsy due to FCD, who have undergone a neurosurgical evaluation and treatment with excellent results – their epilepsy is cured.

First girl was born from uneventful pregnancy with normal development until the age of 11 months, when seizures began. Her brain CT was normal. As seizures with focal onset repeated, and EEG showed focal changes on the right, anticonvulsive therapy was administrated. Next two years she had just one episode of febrile seizure during illness. Brain MRI done at the age of 4 years was normal. In the next period she had focal seizures with motoric component every couple of months. AET was changed but without clinical improvement. Brian MRI at the age of 9.5y was normal, but her epilepsy worsened, her focal seizures were often in duration of status epilepticus, so she was referred to Children’s hospital Zagreb. Brain MRI done with special sequences shown increased cortical thickness in precentral and postcentral gyri, diagnosis of FCD was made, she was presented to neurosurgical team and after evaluation she was operated. After curative resection, diagnosis of FCD type III B with ganglioma gradus II was made.

After the operation she is seizure free with left sided hemiparesis. Her academic achievements are good.

Second girl was born from uneventful pregnancy and reached her early milestones. At the age of 9 months, she had complex febrile seizure, that repeated at the age of 13 months. Seizures exacerbated during first year of life, so she had many febrile and afebrile seizure episodes, often with duration of epileptic status, without response to antiepileptic therapy.

Neurological decline was evident with left-sided hemiparesis. Brain MRI showed increased cortical thickness on the right precentral gyri and she was referred to neurosurgical evaluation. She was operated and resection of lesion was done, she is now seizure-free, with left-sided hemiparesis.

The lesion showed characteristics of FCD II b.

Conclusion Focal epileptogenic lesions can cause generalized epilepsy syndromes in children. The aim of neurosurgical interventions is to eliminate the epileptogenic lesion.