

SEIZURE DISORDERS

FEBRILE SEIZURES AND FACE EMOTION RECOGNITION

Investigators at University-Hospital of Parma, Universities of Verona, Modena, and Bologna, Italy; and Epilepsy Clinic Las Condes, Santiago, Chile, studied facial emotion recognition ability in a group of 38 school-aged children with antecedent febrile seizures (FSs) and in an age- and sex-matched control group. Using Ekman and Friesen's Pictures of Facial Affect, the basic innate emotions studied were happiness, sadness, fear, anger, and disgust. Children with abnormal visuoperceptual abilities were excluded. Children with FSs showed lower recognition scores versus controls in both matching ($p < 0.0001$) and labeling ($p = .001$) facial emotions. (Cantalupo G, Meletti S, Miduri A, et al. Facial emotion recognition in childhood: The effects of febrile seizures in the developing brain. *Epilepsy Behav* 2013 Oct;29(1):211-6). (Response: Dr Gaetano Cantalupo, Child Neuropsychiatry Unit, Department of Neuroscience, University-Hospital of Parma, Italy. E-mail: gcantalupo@gmail.com).

COMMENT. Emotion recognition abilities may be defective in school-aged children with a history of FSs, even in those with a single simple FS. FSs may alter long-term plasticity in extrahippocampal limbic regions, such as amygdala and insular cortex. Neural networks underlying facial emotion recognition involve the visual cortices, the amygdala, orbitofrontal cortex, insula, basal ganglia, and prefrontal cortex.

In patients with medial temporal lobe epilepsy (MTLE), common and widespread deficits of emotion recognition are well recognized (Meletti S, et al. *Neurology* 2003 Feb 11;60(3):426-31) but the above findings in children with simple FSs are new and suggest that the FS is not entirely benign.

RESCUE MEDICATION IN CHILDREN AT RISK OF PROLONGED CONVULSIVE SEIZURES

Investigators at the Institute of Child Health, Great Ormond Street Hospital, London, and other centers in the UK and Europe, explore the adequacy of treatment of children with prolonged convulsive seizures (defined as seizures lasting more than 5 min) occurring in school to prevent progression to status epilepticus and neurological morbidity. Already known is that medication should be given as quickly as possible, and administration of rescue medication in school depends on presence of a trained caregiver. Existing national recommendations include a parent's responsibility to request treatment for a child as needed, to provide all necessary medical information from the treating physician, and teacher volunteers responsible for administering medication should receive training from the school nurse or local health service. Areas for improvements include: 1) practical information to schools on treatment of prolonged convulsive seizures, 2) individual healthcare plan for the child, 3) a clear link between treating physician and school for each child who requires rescue medication, 4) responsible caregiver to receive specific training on rescue medication, 5) comprehensive guidance to ensure immediate treatment wherever seizure occurs, and 6) need for more information

on the experience of children, teachers, and emergency services regarding management of prolonged convulsive seizures occurring at school. (Cross JH, Wait S, Arzimanoglou A, et al. Are we failing to provide adequate rescue medication to children at risk of prolonged convulsive seizures in schools? **Arch Dis Child** 2013 Oct;98(10):777-80). (Response: Professor J Helen Cross. E-mail: h.cross@ucl.ac.uk).

COMMENT. In the past, a seizure lasting 30 min or longer was considered status epilepticus. Currently, experts classify any episode of seizure activity lasting 5 min or longer as status epilepticus. Once seizures persist for 5 to 10 min, they are unlikely to stop without treatment. Pre-hospital treatment with benzodiazepines will reduce seizure activity whereas delayed treatment is less successful, with risk of subsequent prolonged seizure activity, memory deficit, and learning difficulties. (Pellock JM. **J Child Neurol** 2007 May;22(5 Suppl):9S-13S).

A >15 min duration of a febrile seizure is one criterion for the definition of a complex seizure, but a recent FEBSTAT study supports a redefining of simple vs complex seizure, limiting the duration of a simple febrile seizure to no longer than 10 min (Hesdorffer DC, et al. **Ann Neurol** 2011 Jul;70(1):93-100).

Spontaneous seizures and febrile seizure duration. Data in support of a shorter 5-10 min cut off for a simple FS were obtained in a comparative study of 86 consecutive patients with FSs of short and long duration (Millichap JG, et al. **Neurology** 1960 Jul;10:643-53; Millichap JG. **Febrile Convulsions**. New York: Macmillan, 1968, pp 101-3). In 38 patients with FS <5 min duration, 7.9% developed spontaneous seizures; in 21 with FS 5-10 min duration, 9.5%; in 14 with FS 10-20 min duration, 14%; and in 13 with FS >20 min duration, 38% had spontaneous seizures. The difference in spontaneous seizure incidence in patients with FS of 5 and 10 min duration was not significant whereas that between the 10 and >20 min FS duration was very significant. The prompt treatment within 5-10 min of onset of a convulsive seizure (febrile or non-febrile) is recommended, using an age-appropriate benzodiazepine preparation (rectal diazepam, intranasal lorazepam, or buccal midazolam). (Sofou K, et al. **J Child Neurol** 2009 Aug;24(8):918-26). For the optimal outcome of children at risk of prolonged convulsive seizures, rescue treatment for administration at home or in the school should be available.

PROGNOSIS OF EARLY ONSET ABSENCE EPILEPSY

Investigators from University of Chieti and several other centers in Italy conducted a multicenter retrospective 36-month follow-up study of the electroclinical course of epilepsy in all children with typical absence seizures (TAS) starting in the first 3 years of life. Two groups of patients were compared: 1) 111 who fulfilled Panayiotopoulos's criteria for childhood absence epilepsy (CAE) classified as having pure early onset absence epilepsy (P-EOAE), and 2) 77 who did not satisfy the criteria and were classified as nonpure EOAE (NP-EOAE). The 2 groups were also stratified according to the number of antiepileptic drugs used to obtain initial seizure control.

Patients with pure EOAE showed earlier initial seizure control ($p=0.030$) and better seizure-freedom ($p=0.004$) than those with NP-EOAE. P-EOAE patients had no mutation in SLC2A1 gene and no abnormal neuroimaging. Among the NP-EOAE