

onset of symptoms and deficits, aura symptoms persisting beyond headache relief. Visual aura was the most common symptom (82.3%). Six patients (35.3%) reported residual symptoms from the index event. Differentiation between migrainous infarction and prolonged migraine aura is difficult and associated with delayed admission. (Wolf ME, Szabo K, Griebel M et al. Clinical and MRI characteristics of acute migrainous infarction. **Neurology** May 31, 2011;76:1911-1917). (Response and reprints: Dr Marc E Wolf, Department of Neurology, University of Heidelberg, Mannheim, Germany. E-mail: wolf@neuro.ma.uni-heidelberg.de).

COMMENT. It is controversial whether the migrainous attack is the cause or the symptom of ischemic stroke. By definition (HIS), migrainous infarction is a typical attack of migraine aura in a patient with previous history of migraine with aura and MRI evidence of cerebral ischemia. For cases with concomitant etiology (eg coagulation abnormality), "ischemic stroke coexisting with migraine" is the accepted term. Migrainous infarction is a rare disorder, and prophylactic treatment has not been evaluated. Patent foramen ovale closure may result in decreased frequency of attacks (Morandi E et al, 2003, cited by authors).

Cases meeting the diagnostic criteria for acute migrainous infarction are reported in children. Of 7 children with attacks confirmed by CT, 4 followed for 2 years show no severe residual effect. It is concluded that childhood migraine can be a contributory risk-factor for stroke (Rossi LN et al. **Dev Med Child Neurol** 1990;32(11):1016-1021). Two children with acute confusional migraine and one with migrainous infarction, aged 7-12 years, showed almost complete resolution of symptoms within 24 hrs. Transient occipital slowing on EEG lasted >24 hrs. MRI and MR angiography were normal, but SPECT performed within 48 hrs of migraine attacks revealed a regional change in cerebral blood flow, with hypoperfusion in the posterior cerebral territory (Nezu A et al. **Brain Dev** 1997;19(2):148-151).

DIAGNOSIS OF ABDOMINAL MIGRAINE

Researchers at the Children's Hospital of the King's Daughters, Norfolk, VA conducted a retrospective chart review on patients referred with the clinical complaint of recurrent abdominal pain, and ICHD-2 criteria were applied to identify those fulfilling criteria for abdominal migraine (AM). Of 458 patients with chronic, idiopathic, recurrent abdominal pain, only 20 (4.4%) met ICHD-2 criteria for AM and another 50 (11%) had probable AM, lacking at least one criterion for the diagnosis. No child seen in this gastroenterology practice between 1/1/2006 and 12/31/2007 had been diagnosed with AM during the 2-year observation period. AM is under-diagnosed in the US. Increased awareness of cardinal features of AM may result in improved diagnosis and early use of specific therapy. ICHD-2 2004 criteria for AM are listed as follows: A. At least 5 attacks with criteria B-D; B. Abdominal pain lasting 1-72 hrs; C Abdominal pain in midline, periumbilical, dull, and moderate or severe; D. At least 2 of the following during pain: anorexia, nausea, vomiting, pallor; E. Pain is not attributed to another disorder, and gastrointestinal or renal disease has been ruled out. (Carson L, Lewis D, Tsou M, et al. Abdominal migraine: an under-diagnosed cause of recurrent abdominal pain in children. **Headache** May 2011;51:707-712). (Response: Dr Donald Lewis, Division of Pediatric

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COMMENT. Reasons for exclusion from the diagnosis of abdominal migraine included irritable bowel syndrome (41%), renal disease (4%), pre-existing neurologic disorder (7%), inflammatory bowel disease (16%), eosinophilic esophagitis (4%), and "other" (28%), including food allergies, celiac disease, cystic fibrosis, autism spectrum disorder, and anatomic abnormalities. The differential diagnosis of chronic recurrent abdominal pain in children is broad and may require the expertise of pediatrician, gastroenterologist, psychiatrist, and neurologist. Diagnosis is based on exclusion criteria and positive criteria. Positive ICHD-2 criteria for AM are listed above. Among the neurologic disorders sometimes causative, abdominal epilepsy may be differentiated from migraine by the occurrence of other features of partial seizures, the family history, and an EEG showing interictal epileptiform discharges. Migraine and epilepsy are uncommon causes of recurrent abdominal pain, and investigation of other causes is paramount. My last consultation on a case of recurrent abdominal pain referred for EEG and exclusion of abdominal epilepsy eventually proved to have pancreatitis necessitating surgery.

Childhood abuse and migraine. Neurologists at the Universities of Toledo, OH and Johns Hopkins, Baltimore, MD, review the neurobiological effects of abuse on brain function and structure in relation to migraine (Tietjen GE, Peterlin BL. *Headache* June 2011;51:869-879). A possible role of early life stress on the pathogenesis of migraine may impact girls more than boys and may become hard-coded into the genome, leading to migraine at a later age. The emerging field of epigenetics may suggest new treatment strategies such as serotonin-specific reuptake inhibitors that reverse effects of maltreatment and decrease the corticotropin releasing hormone response to stress.

METABOLIC DISORDERS

INFANTILE THIAMINE DEFICIENCY AND LANGUAGE IMPAIRMENT

Developmental language impairment in 59 children, aged 5-7 years, exposed to a thiamine deficiency in defective milk formula fed during the first year of life is studied by researchers at Tel Aviv University and Sourasky Medical Centre, Israel. Various tests of phrase and sentence comprehension, word retrieval and conceptual abilities were compared in thiamine deficient and normally fed controls. Almost all (57) of the 59 thiamine-deficient children examined had language impairment, compared with 3 of the 35 controls (9%), whereas conceptual and cognitive abilities were spared (only 6 (10%) were conceptually impaired). (Fattal I, Friedmann N, Fattal-Valevski A. The crucial role of thiamine in the development of syntax and lexical retrieval: a study of infantile thiamine deficiency. *Brain* June 2011;134:720-1739). (Response: Prof Naama Friedmann, Language and Brain Lab, School of Education, Tel Aviv University, Tel Aviv 69978, Israel. E-mail: naamafr@post.tau.ac.il).