

## IDIOPATHIC INFANTILE NYSTAGMUS, WITH AND WITHOUT *FRMD7* GENE MUTATIONS

Clinical features and eye movement recordings of 90 subjects with mutations in the gene (*FRMD7* group) were compared to 48 without mutations (non-*FRMD7* group) but with clinical idiopathic infantile nystagmus (IIN), in a study at University of Leicester, Leicester Royal Infirmary, Leeds General Infirmary, Royal Preston Hospital, Addenbrooks Hospital, Cambridge, UK; Wills Eye Hospital, Philadelphia, USA; and Medical University Graz, Austria. Visual acuity and binocular vision were generally normal in both groups. Prevalence of strabismus was similar and occurred in 7.8% of mutation and 10% of non-*FRMD7* patients. Anomalous head posture was significantly more frequent in the non-*FRMD7* group ( $P<0.0001$ ); moderate (5-15 degrees) in 24% and severe ( $>15$ ) in 27% vs 17% only moderately affected in the *FRMD7* group. Amplitude of nystagmus was lower at primary position in the *FRMD7* group ( $P<0.0001$ ) compared to non-*FRMD7* group ( $P=0.83$ ). Pendular nystagmus was more frequent in the *FRMD7* group ( $P=0.003$ ). Obligate female carriers of an *FRMD7* mutation were clinically affected in 53%. Visual acuity of affected females was better than affected males ( $P=0.014$ ). *FRMD7* is a major cause of X-linked IIN. The findings are helpful in genetic counselling of patients with idiopathic infantile nystagmus. (Thomas S, Proudlock FA, Sarvananthan N, et al. Phenotypical characteristics of idiopathic infantile nystagmus with and without mutations in *FRMD7*. *Brain* May 2008;131:1259-1267). (Respond: Prof Irene Gottlob, Ophthalmology Group, University of Leicester, Faculty of Medicine & Biological Sciences, Robert Kilpatrick Clinical Sciences Building, Leicester Royal Infirmary, PO Box 65, Leicester, LE2 7LX, UK. E-mail: [ig15@le.ac.uk](mailto:ig15@le.ac.uk)).

COMMENT. Idiopathic infantile nystagmus is noted in the first months of life, and diagnosis is dependent on the absence of albinism and congenital night blindness or achromatopsia. Prevalence of nystagmus is estimated at 2.4/1000 (Sarvananthan N et al. *Invest Ophthalmol Vis Sci* 2006;47:E-Abstract 2656). Inheritance is X-linked most commonly, and the present authors report multiple mutations in *FRMD7* gene localized to chromosome X (NYS1). In addition, autosomal dominant inheritance is described, localized to chromosome 6, as well as autosomal recessive inheritance. In patients with idiopathic infantile nystagmus, clinical characteristics of those with *FRMD7* mutation are similar to a non-*FRMD7* mutation group, except abnormal head posture is significantly less frequent and amplitude of nystagmus in the primary position is lower in those with mutations. Most patients with IIN have good visual acuity and stereopsis and strabismus is infrequent, in both those with and without mutations. Mutations in *FRMD7* are the major cause of inherited IIN. Cerebellar dysfunction is the most likely cause of nystagmus related to the *FRMD7* gene in IIN. (Glasauer S. *Ann NY Acad Sci* 2003;1004:206-219).

## MANAGEMENT OF NEONATAL SEIZURES

The generally accepted clinical approaches to neonatal seizures were determined by questionnaires completed by pediatric neurologists and neonatologists representing all the pediatric neurology units and all departments of neonatology in Israel, and were evaluated at

Tel Aviv Sourasky Medical Center. Responding 36/55 (65%) neurologists and 66/112 (59%) neonatologists chose similar antiepileptic drugs as first line (phenobarbital), second line (phenytoin), and third line (benzodiazepines) treatments. Treatment duration favored by both specialties varied widely from 1-52 weeks, neurologists tending to recommend longer treatment for seizures secondary to asphyxia or hemorrhage. For intractable neonatal seizures, neurologists favored valproic acid and topiramate, and neonatologists recommended lidocaine and benzodiazepines ( $P=0.0023$ ). Continuous EEG monitoring after asphyxia was used by 70.5% of neonatologists contrasting with only 40% of neurologists ( $P=0.013$ ). Specialties differed concerning the harmfulness of neonatal seizures: 76% neurologists cf 55% neonatologists answered "Yes" to "Could neonatal seizures harm the brain?" ( $P=0.065$ ); 12% neurologists cf 34% neonatologists answered "Don't know." "Could electrographic seizures harm the brain?," 43% neurologists and 47% neonatologists answered "Don't know." "Would you treat electrographic seizures?," 40% neurologists and 38% neonatologists answered "Yes." Controlled clinical trials to establish evidence-based guidelines for the management of neonatal seizures are indicated. (Bassan H, Bental Y, Shany E et al. Neonatal seizures: dilemmas in workup and management. **Pediatr Neurol** June 2008;38:415-421). (Dr Haim Bassan, Neonatal Neurology Service, Dana Children's Hospital, Tel Aviv Sourasky Medical Center, 6 Weizmann Dr, Tel Aviv 64239, Israel. E-mail: [bassan@post.tau.ac.il](mailto:bassan@post.tau.ac.il)).

COMMENT. Israeli neurologists and neonatologists agree on initial management, but differ on treatment of intractable neonatal seizures, the harmfulness of neonatal seizures on developing brain, and need to monitor subclinical seizure activity. "Don't know" was a frequent answer by both specialties to questions regarding harmfulness of electrographic seizures and the need to treat them. Controversies in the literature need further research and answers.

**Lamotrigine for partial seizures in patients aged 1 to 24 months** was well tolerated and may be effective as adjunctive therapy, as shown by a randomized, double-blind, placebo-controlled study in 19 patients at Vanderbilt University, Nashville, TN (Pina-Garza, Levisohn P, Gucuyener K, et al. **Neurology** May 27, 2008;70:2099-2108). Rash occurred in 15% during the open label phase; none was Stevens-Johnson syndrome or toxic epidermal necrolysis. Children <2 years of age are considered therapeutic orphans since antiepileptic drug trials are hampered by multiple restrictions. This study demonstrates that drug trials at this age can be completed. (Goodkin HP, Buck ML. Editorial. **Neurology** 2008;70:2093-2094).

## **INFECTIOUS DISORDERS**

### **MATERNAL INFECTION AND RISK OF EPILEPSY IN CHILDHOOD**

The association between prenatal exposure to maternal specific infections during pregnancy and the subsequent risk of epilepsy in childhood was estimated in a prospective population-based birth cohort in Denmark followed for 8 years at University of Aarhus, Denmark. Of 90619 singletons, 646 children were identified with a diagnosis of epilepsy in the follow-up period. Children exposed to maternal cystitis in each trimester, pyelonephritis,