

to age or sex. Occipital or temporo-parietal impacts caused more cases of olfactory dysfunction than frontal impacts. Of 66 retested after periods ranging from 1 month to 13 years, 24 (36%) showed slight improvement, 45% were unchanged, and 18% were worse. Parosmia, or perversion of smell, occurring in 40% of patients immediately after the trauma, decreased to 15% during an 8 year follow-up. Volumes of olfactory bulbs and tracts measured by MRI were smaller than controls in male, but not female, patients. (Doty RL, Yousem DM, Pham LT et al. Olfactory dysfunction in patients with head trauma. Arch Neurol Sept 1997;54:1131-1140). (Reprints: Richard L Doty PhD, Smell and Taste Center, University of Pennsylvania Medical Center, 5 Ravdin Pavilion, 3400 Spruce St, Philadelphia, PA 19104).

COMMENT. Patients with head trauma who lose their sense of smell rarely regain normal olfactory function, whereas those who complain of distortions of smell usually recover over time. Head trauma male patients with olfactory dysfunction have MRI evidence of greatly reduced olfactory bulb and tract volumes. The apparent selective sparing of female olfactory structures may be explained by lesser severity of trauma or a protective effect of estrogens.

SEIZURE DISORDERS

X-LINKED INFANTILE SPASMS

Two unrelated families with X-linked infantile spasm syndrome were studied genetically by two-point and multipoint linkage analyses at the University Hospital Gasthuisberg, and Center for Human Genetics, University of Leuven, and University of Antwerp, Belgium. The disease gene was located to the distal part of the short arm of the X chromosome, between Xpter and Xp11.4. (Claes S, Devriendt K, Lagae L et al. The X-linked infantile spasms syndrome (MIM 308350) maps to Xp11.4-Xpter in two pedigrees. Ann Neurol Sept 1997;42:360-364). (Respond: Dr JJ Cassiman, Center for Human Genetics, University of Leuven, Campus Gasthuisberg, Herestraat 49, B-3000 Leuven, Belgium).

COMMENT. West syndrome may rarely occur in families as an X-linked inherited disorder.

Zonisamide (ZNS) for infantile spasms. ZNS monotherapy was effective in the control of spasms in 4 of 11 patients treated at 11 centers in Japan. (Suzuki Y, Nagai T, Ono J et al. Epilepsia Sept 1997;38:1035-1038).

AUTOMATIC NEONATAL SEIZURE DETECTION BY EEG

EEGs obtained from 55 newborns, recorded at the Montreal, Sydney, and Texas Children's Hospitals, were reviewed by 3 types of automatic analysis of sequential epochs aimed at detecting rhythmic paroxysmal discharges, repetitive spike patterns, arrhythmic runs of spikes, and low frequency discharges, and the methods are reported from the Montreal Neurological Institute, and the Montreal Children's Hospital, Canada. Initial evaluation detected 71% of seizures and 78% of seizure clusters, and the false detection rate was 1.7%/hour of recording. (Gotman J, Flanagan D, Zhang J, Rosenblatt B. Automatic seizure detection in the newborn: methods and initial evaluation. Electroenceph clin Neurophysiol Sept 1997;103:356-362). (Respond: Dr J Gotman, Montreal Neurological Institute and Hospital, 3801 University St, Montreal, PQ, H3A 2B4 Canada).

COMMENT. The EEG is particularly important in the recognition of seizures in the newborn, since clinical observation alone may not be diagnostic. An algorithm that extracts rhythmic features from the EEG by spectral analysis may identify paroxysmal patterns indicative of seizure activity, but false detections may be a concern.

In a second publication, the authors evaluated their automatic EEG method of neonatal seizure detection, using recordings from a new set of 54 patients. The average seizure detection rate in the 3 institutions providing recordings was 69%, and the average false detection rate was 2.3/hour. Fluctuations in the false detection rates, ranging from a low of 1 to a high of 4/h, were a reflection of the technical quality and level of supervision of recordings. An experienced electroencephalographer must review "seizure" detections in conjunction with clinical observations, so that false or artifactual patterns may be excluded. (Gotman J, Flanagan D, Rosenblatt B, Bye A, Mizrahi EM. Evaluation of an automatic seizure detection method for the newborn EEG. Electroenceph clin Neurophysiol Sept 1997;103:363-369).

GABAPENTIN MONOTHERAPY FOR REFRACTORY SEIZURES

The results of an 8-day, controlled, multicenter study of gabapentin monotherapy in 82 hospitalized patients with refractory complex partial or secondarily generalized seizures are reported by members of the US Gabapentin Study Group. The study was conducted at 13 centers, 12 in the US and 1 in Canada, between Feb 1994 and Aug 1995. The efficacy and safety of 2 dosages, 300 and 3,600 mg/d, as three equally divided doses every 8 hours, were compared after tapering and discontinuing other antiepileptic medications. Patients exited the double-blind period with the occurrence of 4 seizures (46 patients), prolonged/intensified seizures (4 patients), lack of efficacy (1), or at completion of 8-day treatment (28 patients). Time to exit was significantly longer and rate of completion of the trial period was higher for patients receiving the higher 3,600 mg/d dose of gabapentin. At the higher dosage, 52% completed the study, compared to 16% at the lower dosage. Adverse dose-related events included dizziness (13% of patients), ataxia (12%), and somnolence (11%). No patient exited the study due to adverse effects of gabapentin. (Bergey GK, Morris HH, Rosenfeld W et al. Gabapentin monotherapy: I. An 8-day, double-blind, dose-controlled, multicenter study in hospitalized patients with refractory complex partial or secondarily generalized seizures. Neurology Sept 1997;49:739-745). (Reprints: Dr Elizabeth Garofalo, Parke-Davis Pharmaceutical Research, 2800 Plymouth Rd, Ann Arbor, MI 48105).

COMMENT. This short-term inpatient study in adults demonstrates that gabapentin monotherapy is an effective and safe treatment for refractory complex partial and secondarily generalized seizures. In a further dose-controlled, 26-week, multicenter study of gabapentin in 275 patients, 20% of patients completed the study, but completion rates were higher among patients who had discontinued only one AED (23%) or had been maintained on carbamazepine (27%) in addition to gabapentin. (Beydoun A, Fischer J, Labar DR et al. Neurology Sept 1997;49:746-752).

LAMOTRIGINE OPEN TRIAL IN REFRACTORY EPILEPSY

Lamotrigine, 5 and 15 mg/kg/daily, was administered as add-on therapy in 37 outpatient children and adolescents with refractory epilepsy and mental