

the hemiparesis. Seizures were controlled with clobazam. The association of GAS subdural empyema and varicella had not previously been described. (Ulloa-Gutierrez R, Dobson S, Forbes J. Group A streptococcal subdural empyema as a complication of varicella. **Pediatrics** January 2005;115:e112-e114). (Respond: Rolando Ulloa-Gutierrez MD, Pediatric Infectious Diseases Division, British Columbia's Children's Hospital, 4480 Oak St, Rm K4-166, Vancouver, BC, Canada V6H 3V4).

COMMENT. Varicella is the most commonly identified risk factor in children with severe invasive group A streptococcal (GAS) infections. The portal of entry is unknown in 50% of cases, but the skin is the prime suspect. (AAP **Red Book**, 25<sup>th</sup> ed;528). GAS bacterial meningitis was presumed to be the source of the subdural empyema in the above case, although the diagnosis was not confirmed by lumbar puncture and CSF examination. Bacteremia and a hematogenous source were other possibilities considered, despite sterile blood cultures. Invasive GAS infections associated with varicella have decreased with vaccination.

## VIRAL INFECTIONS AND FEBRILE SEIZURES

The incidence of febrile seizures (FS) in a cohort of children, ages 3 months to 5 years, living in a Netherlands province was compared with the incidence of common viral infections reported to a national registry and the results reported from the Department of Medical Microbiology, Public Health Laboratory Friesland, Leeuwarden, The Netherlands. In a 4-year period, April 1998 to April 2002, 267 of 303 (88%) general practitioners in the province registered 654 cases of FS (388 first FS and 266 recurrences) in a group of 429 children, an estimated incidence of 2.4 in 1000 patient-years. The ratio of simple versus complex FS was 7.3. A seasonal variation was observed, with peaks in the winter, nadirs during the summer, and small increases at the end of summer. Statistical comparison of the seasonal variation of FS with viral incidence figures showed a significant correlation between FS and influenza A, especially with FS recurrences, and to a lesser degree of significance, with complex FS. Poisson regression analysis revealed no association between FS and RSV infections, despite high rate of infection and clear seasonal variation. Influenza B virus, parainfluenza viruses, enteroviruses, and adenoviruses showed no correlation with FS also, but the incidence of these infections was lower and a seasonal trend could not be demonstrated. Influenza A has a significant role in the recurrence of FS in the Netherlands. Vaccination against influenza should be considered as a preventive therapy for FS recurrence after a first FS. (van Zeijl JH, Mullaart RA, Borm GF, Galama JMD. Recurrence of febrile seizures in the respiratory season is associated with influenza A. **J Pediatr** December 2004;145:800-805). (Reprints: Dr JH van Zeijl, Public Health Laboratory Friesland, Department of Medical Microbiology, PO Box 21020, 8900 JA Leeuwarden, The Netherlands).

COMMENT. The role of infections in neurologic disease is constantly changing, and epidemiological studies show the emergence of new or the re-emergence of old maladies (Gendelman HE, Persidsky Y. **Lancet Neurology** January 2005;4:12-13). The association of influenza A with febrile convulsions (FC) has shown changes over time and geographically. In recent correspondence regarding influenza virus and the frequency and mechanism of FC

(Millichap JJ, Millichap JG. **J Infect Dis** 2004;189:564-565), influenza A virus is currently a common cause of FC in Japan and in other Asian countries but is less frequently associated in the US and Europe. In the first half of the 20<sup>th</sup> century, apart from roseola infantum, viral infections as a cause of FC were rarely reported, and influenza A infection with FC was not recorded in the literature. Currently, in the US, human herpesvirus (HHV)-6 is a more frequent cause of FC than is infection with influenza A virus (Hall CB et al. **N Engl J Med** 1994;331:432-438). During the 2003 outbreak of influenza A in Houston, Texas, children admitted to hospital with neurologic complications had seizures that were classified as encephalopathic, and none was typical of a FC (Maricich SM et al. **Pediatrics** 2004;114:e626-e633; **Ped Neur Briefs** Nov 2004;18:83). The distinction between seizures with encephalopathy and complex febrile seizures is often difficult. The threshold to FC is determined by the height of the fever, but other factors involved in susceptibility to FC include genetics, an increased cytokine and systemic immune response to infection and, especially with complex FC, a possible unrecognized viral encephalitis or toxic encephalopathy.

**Circadian and seasonal variation of first febrile seizures** has been studied at the University of Ferrara, Italy (Manfredini R et al. **J Pediatr** Dec 2004;145:838-839). The frequency of FC increased significantly in the evening hours, with a peak between 5 and 8 pm, the time of an expected circadian increase in body temperature. The peak seasonal incidence was in January and winter months, the time of greatest frequency of viral infections and respiratory illnesses responsible for fever. Parental alertness to the risks of FC recurrence and the need for prophylactic therapy should be heightened at these times.

## BRAIN TUMORS

### POSTERIOR FOSSA TUMORS AND INTELLECTUAL IMPAIRMENT

The effect of cerebellar damage on intellectual function in 76 children treated surgically for malignant posterior fossa tumor was investigated at the Gustave Roussy Institute, Villejuif, and the Department of Pediatric Neurosurgery, Necker Hospital, Paris, France. Inclusion criteria included a tumor treated initially with surgery followed by irradiation and/or chemotherapy, age older than 4 years at time of psychological evaluation, and evaluation at >1 year after diagnosis and >6 months after treatment. Mean age at diagnosis was 5.7 +/- 3.8 years. Shunt surgery was performed in 31 children, 12 preoperatively, 17 postoperatively, and 2 at time of tumor resection. The vermis was split in 61.5% of medulloblastoma cases and in 29.4% of ependymoma resections (p=0.03). Postoperative complications occurred in 47% of children whose hydrocephalus was treated prior to tumor resection and in 67% treated later (p=0.07).

Postoperative cerebellar syndrome (transient short-term cognitive deficits) was higher in patients with preoperative hydrocephalus than in those without (58% and 33%, respectively; p=0.03). Cerebellar mutism occurred in 9 patients (12%), and incision of the vermis (in 7) was more frequent than in patients without this complication. Risk factors for persistent cerebellar syndrome were preoperative hydrocephalus, cardiovascular instability, and postoperative complications. At time of testing, 13 children (17%) had special education needs and one child was not attending school. On Wechsler Scales of IQ, the mean verbal