scans. After surgery, metabolite abnormalities confirmed by MRS suggested active disease in the anterior region of the excised superior temporal gyrus. Rasmussen encephalitis is characterized by a progressive encephalitic process that shows fluctuating evidence of neuronal damage and recovery related to seizures. (Wellard RM, Briellmann RS, Wilson JC et al. Longitudinal study of MRS metabolites in Rasmussen encephalitis. **Brain** 2004;127:1302-1312). (Respond: Professor Graeme Jackson, Brain Research Center, Austin Health, Neurosciences Building, Banksia St, Heidelberg West 3081, Australia).

COMMENT. Longitudinal studies of MRS metabolites in Rasmussen encephalitis reveal a fluctuating metabolite profile related to seizure activity, indicating the limitations of MRS at a single point in the course of the disease.

RISK OF BRAIN DAMAGE FOLLOWING PERTUSSIS IMMUNIZATION WITH WHOLE-CELL cf ACELLULAR VACCINES

Serious neurological disorders reported following whole-cell (WC) in comparison to acellular (AC) pertussis vaccines (PV) were evaluated by the Genetic Centers of America, Silver Spring, MD. The Vaccine Adverse Events Reporting System (VAERS) was analyzed for ER visits, hospitalizations, disabilities, deaths, seizures, infantile spasms, encephalitis/encephalopathy, autism, SIDS, and speech disorders reported within 3 days following PV immunization in the US from 1997-1999. Both vaccines were available for use in this time period. The predominant PV in the US and Japan changed from WC to AC in 1998, and WCPV was withdrawn in 2001. The incidence per million of reactions with WCPV/ACPV was for ER visits (72/32), diabilities (1.4/0.38), deaths (2.7/1.5), seizures (13.4/3.6), infantile spasms (0.39/0.11), encephalopathy (0.78/0.095), autism (0.49/0.11), SIDS (1.5/0.87), speech disorders (0.78/0.23), and cerebellar ataxia (0.29/0.27). Statistical increases for all reactions were associated with WCPV, except cerebellar ataxia. WCPV contains 3000 different proteins, including the neurotoxins endotoxin, pertussis toxin, and adenylate cyclase, compared to only 2 to 5 proteins in ACPV and DTaP, which probably account for its greater reactogenicity. (Geier DA, Geier MR. An evaluation of serious neurological disorders following immunization: a comparison of whole-cell pertussis and acellular pertussis vaccines. **Brain Dev** 2004;26:296-300). (Respond: Mark R Geier, 14 Redgate Ct, Silver Spring, MD 20905).

COMMENT. These results are similar to previous studies conducted by the CDC, using the VAERS database (Braun et al. 2000). Although relatively rare in pediatric practice, serious neurological disorders were undoubtedly linked to the use of whole-cell pertussis vaccine, and since its withrawal from the US market in 2001 and the required substitution of acellular vaccine, the incidence of neurologic adverse events has significantly decreased. Contrary to the frequently proposed viewpoint that post-DPT seizures are coincidental, the earlier reports (Byers, Moll, 1948; et al) of a relationship between seizures, including infantile spasms, encephalopathy and whole-cell PV are supported by the present study. It is unfortunate that the development and substitution of the less neurotoxic acellular PV was delayed for more than 50 years, despite the concerns and reports by pediatric neurologists of a probable causal relationship between seizures and WCPV.