

Addressing the Fundamental Methods

I read with interest the article published in the ARCHIVES entitled "Analysis of Perpetrator Admissions to Inflicted Traumatic Brain Injury in Children."¹ However, I was most surprised to read in the penultimate paragraph "An analysis of the investigative techniques involved in eliciting the admissions is beyond the scope of this article."^{1(p457)} Failure to address the fundamental methods on which the study was based must surely undermine the entire premise of the article.

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1. Starling SP, Patel S, Burke BL, Sirotnak AP, Stronks S, Rosquist P. Analysis of perpetrator admissions to inflicted traumatic brain injury in children. *Arch Pediatr Adolesc Med.* 2004;158:454-458.

In reply

We disagree with Dr Squier that the premise of the article was undermined by failing to analyze the investigative techniques in each case. The purpose of this research was not to analyze, critique, or examine law enforcement procedures or techniques of interviewing criminal suspects but to analyze what statements were made. The variability, experience, and training of law officers regarding their ability to elicit confessions is indeed beyond the scope of the article. We as medical professionals have been taking histories from patients for centuries, asking "What happened?" or "How have you been hurt or injured?" Our interview skills as medical professionals have changed with time as have law enforcement interview techniques. We have no reason to believe that police investigators are using unsound techniques or are in any way compromising or influencing the admissions of the perpetrators they are interviewing. In fact, many investigative interviews are recorded in some way and subject to the strict peer review of both the police departments and the court systems and thus may be more forensically sound than most physician interviews. Our role as physicians is to report injuries to agencies for investigation as required by law. The histories we take become part of investigations of criminal acts of child abuse, and like it or not, authorities rely on medical professionals to interpret medical information. Finally, we as pediatricians also can learn important information from investigators' interviews of suspects and the complex jurisprudence system. If we do not interact and rely on each other, we do a disservice to abused children and children at risk.

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Declining Early Childhood Mortality From Invasive Pneumococcal Disease: The Impact of Vaccination

Invasive pneumococcal disease (IPD) is an important cause of morbidity and mortality in young children. In 2000, a 7-valent pneumococcal conjugate vaccine (PCV7) was licensed and recommended for IPD prevention in children.¹ Subsequent decreases in IPD incidence in young children have been noted.^{2,3} However, population-based data are lacking on the impact of PCV7 on early childhood mortality. We used vital records data to assess the effects of PCV7 on mortality in children younger than 2 years in the United States.

Methods. Invasive pneumococcal disease deaths in children younger than 2 years were identified using multiple cause-coded vital records data for the United States from 1995 to 2001.⁴ Invasive pneumococcal disease deaths were defined as any deaths for which the underlying cause of death or any of the contributory causes indicated pneumococcal meningitis or pneumococcal septicemia. Deaths coded with unspecified meningitis or septicemia were included if pneumococcal infection was also listed on the death certificate. US population data were obtained from census estimates.^{5,6}

To investigate patterns of death in an unvaccinated population, we examined age in months at the time of death for all IPD deaths in children younger than 2 years before vaccination became available in 2000.

Results. A total of 408 IPD deaths were reported from 1995 to 2001 in children younger than 2 years. For 317 deaths (77.7%), IPD was reported as the underlying cause of death. Pneumococcal meningitis was reported in 283 deaths (69.4%), and pneumococcal septicemia was reported in 209 (51.2%). In 84 deaths (20.6%), both pneumococcal meningitis and pneumococcal septicemia were reported.

The overall mortality rate for IPD was lower in 2001 than in 1995 to 1999 (rate ratio, 0.39 [95% confidence interval, 0.26-0.50]). Similar declines were observed for both pneumococcal meningitis (rate ratio, 0.37 [95% confidence interval, 0.23-0.47]) and pneumococcal septicemia (rate ratio, 0.47 [95% confidence interval, 0.28-0.62]). Invasive pneumococcal disease mortality rates were lower in 2001 than in any other year during the study period (**Figure**).

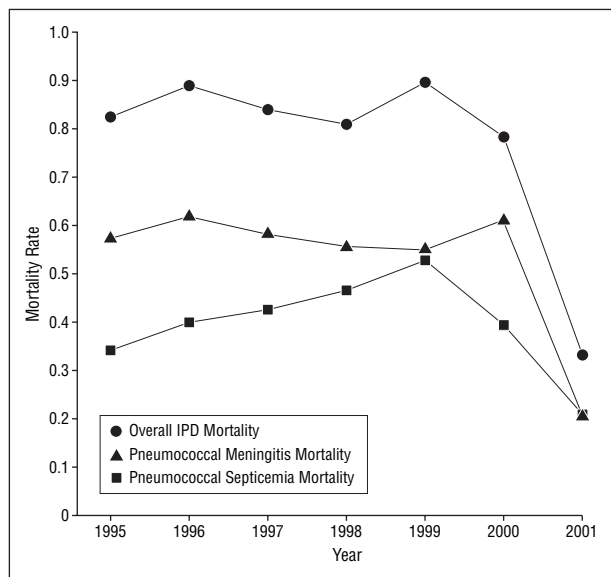


Figure. Crude invasive pneumococcal disease (IPD) mortality rates per 100,000 population by year in children younger than 2 years in the United States, 1995 to 2001.

In 1995 to 1999, before vaccination became available, 17 deaths (5.3%) from IPD were reported in children younger than 2 months. Forty-three deaths (13.4%) occurred between 2 and 4 months of age, 40 (12.4%) between 4 and 6 months of age, and 222 (68.9%) after 6 months of age.

Comment. National mortality data document a substantial decrease in IPD mortality in children younger than 2 years following the introduction of the PCV7. The observed decrease in IPD mortality is consistent with reported decreases in morbidity and underscores the public health importance of pneumococcal vaccination.^{2,3}

Advisory Committee on Immunization Practices guidelines recommend the administration of 3 doses of PCV7 in the first 6 months of life. Before PCV7 became available, nearly 70% of reported early childhood IPD deaths occurred in children older than 6 months. Timely vaccination offers possible protection before most deaths would otherwise occur.

This analysis is limited in that observed IPD mortality rates may be low because of underreporting. Moreover, we were only able to measure the effects of PCV7 indirectly, because individual-level data were unavailable for vaccination status.

Despite encouraging decreases in early childhood mortality from IPD, preventable pneumococcal deaths continue to occur. Aggressive expansion of childhood pneumococcal immunization efforts should be pursued. Education of parents and health care professionals regarding the benefits of pneumococcal vaccination is warranted. In light of our findings and given the recent vaccine shortage, the importance of maintaining adequate vaccine supply in the future is critical.

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1. Advisory Committee on Immunization Practices. Preventing pneumococcal disease among infants and young children: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR Recomm Rep.* 2000;49:1-35.
2. Whitney CG, Farley MM, Hadler JH, et al; Active Bacterial Core Surveillance of the Emerging Infections Program Network. Decline in invasive pneumococcal disease after the introduction of protein-polysaccharide conjugate vaccine. *N Engl J Med.* 2003;348:1737-1746.
3. Kaplan SL, Mason EO, Wald ER, et al. Decrease of invasive pneumococcal infections in children among 8 children's hospitals in the United States after the introduction of 7-valent pneumococcal conjugate vaccine. *Pediatrics.* 2004;113:443-449.
4. National Center for Health Statistics. Data File Documentations, Multiple Cause-of-Death, 1995-2001 [machine readable data file and documentation on CD-ROM, Series 20]. Hyattsville, Md: National Center for Health Statistics.
5. National Center for Health Statistics. Bridged-race intercensal estimates of the July 1, 1990-July 1, 1999, United States resident population by county, single-year of age, sex, race, and Hispanic origin, prepared by the US Census Bureau with support from the National Cancer Institute. Available at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. Accessed April 24, 2004.
6. National Center for Health Statistics. Estimates of the July 1, 2000-July 1, 2002, United States resident population from the vintage 2002 postcensal series by year, county, age, sex, race, and Hispanic origin, prepared under a collaborative arrangement with the US Census Bureau. Available at: <http://www.cdc.gov/nchs/about/major/dvs/popbridge/popbridge.htm>. Accessed August 01, 2003.

Do We Really Need More Trials About the Efficacy of Commonly Used Treatments for Bronchiolitis?

We greatly appreciated the article by King et al¹ for the thorough information that it gives about the pharmacologic treatment of bronchiolitis in infants. Nevertheless, we believe that in a systematic review about the pharmacologic treatment of bronchiolitis, surfactant should have been considered. Even if the interest for this treatment was limited to intubated children with very severe disease, these are the very children most in need of an efficacious therapy. There is convincing physiopathological evidence of the role played by surfactant's genetics² and deficiency³ in the most severe forms of bronchiolitis. Furthermore, limited but repeated evidence from small clinical trials suggests that surfactant treatment is likely to be beneficial, playing a role in maintaining small-airway patency as well as lung compliance in children infected with respiratory syncytial virus.^{4,5}

After all, we believe that in the last 20 years a convincing body of evidence has been grown suggesting that routine use of bronchodilators, steroids, and ribavirin is at least unlikely to be beneficial and that it is quite improbable that large, well-designed, pragmatic trials will substantially change things. This is even more true if we consider that bronchiolitis is generally a mild disease with a self-limiting course. On the other hand, it could be worthwhile and more cost-effective to design a multicenter, large trial with surfactant involving children who are most in need of a treatment that has a strong theoretical rationale and that can be considered quite promising so far.