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Are Children Born Small for Gestational Age at Increased Risk of Short Stature?

Objective: To assess the height outcome of newborns born small for gestational age.
Design: A historical prospective study.
Setting: A cohort of 1758 newborns born at a single university hospital maternity ward and subsequently examined at the military draft medical board at age 17 years.
Participants: Newborns whose weight at birth was below the third percentile were defined as small for gestational age. Their body measurements at age 17 years were compared with those of their peers who were appropriate for gestational age.
Measurements/Main Results: The adjusted mean±SEM height for boys born small for gestational age vs peers born appropriate for gestational age was 169.9±1.5 vs 175.4±0.8 cm ($P<.0001$); and for girls, 159.4±1.3 vs 163.1±0.8 cm ($P<.0005$). In addition, the risk for height attainment below the 10th percentile was significantly increased for newborns born small for gestational age. The adjusted odds ratio was 4.13 for boys (95% confidence interval, 1.66 to 10.25; $P<.0006$) and 3.32 for girls (95% confidence interval, 1.38 to 8.05; $P<.0005$).
Conclusion: Infants born small for gestational age may be at increased risk for short stature in late adolescence.

(1993;147:337-339) Ido Paz, MD, et al. Reprints not available.

Comparison of a Diphtheria and Tetanus Toxoids and Bicomponent Acellular Pertussis Vaccine With Diphtheria and Tetanus Toxoids and Whole-Cell Pertussis Vaccine in Infants

Objective: To compare the reactogenicity and immunogenicity of a diphtheria and tetanus toxoids and two-component acellular pertussis (ADTP) vaccine with a US-licensed whole-cell (WDTP) vaccine.
Setting: General pediatric practice in suburban Rochester, NY.
Design: Prospective, double-blind, randomized study.
Participants: One hundred ten infants were studied; 88 (80%) received ADTP and 22 (20%) received WDTP at ages 2, 4, and 6 months.
Intervention: Vaccination.
Measurements/Main Results: Temperature of 38.3°C or higher ($P=.03$) and moderate or severe injection-site pain ($P=.02$) occurred less frequently in infants receiving ADTP than those receiving WDTP for the combined three doses. Following the third dose, ADTP vaccination produced higher antibody responses than WDTP to pertussis toxin (geometric mean enzyme-linked immunosorbent assay IgG was 52.2 vs 12.5; $P<.001$) and to filamentous hemagglutinin (geometric mean IgG was 182.8 vs 3.5; $P<.001$). No interference in the diphtheria or tetanus antibody responses was observed in recipients of the ADTP vaccine.
Conclusions: This two-component ADTP vaccine, when given as a primary infant series, produces fewer adverse effects and greater immunogenicity to the two pertussis components that it contains than US-licensed WDTP vaccine.

(1993;147:295-299) Michael E. Pichichero, MD, et al, Department of Pediatrics, University of Rochester Medical Center, 601 Elmwood Ave, Box 690, Rochester, NY 14642.

Comparison of the Safety and Immunogenicity of Acellular (BIKEN) and Whole-Cell Pertussis Vaccines in 15- to 20-Month-Old Children

Objective: To compare the immunogenicity and reactogenicity of a two-component acellular pertussis vaccine (BIKEN) with whole-cell diphtheria and tetanus toxoids and pertussis vaccine (WC-DTP) when administered to children aged 15 to 20 months.
Design: A randomized, double-blind study.
Setting: Children in this study were from 12 general pediatric practices (11 were private and one was university-affiliated) and one inner-city university pediatric clinic.
Participants: Two hundred forty-six children aged 15 to 20 months who had received a three-dose primary series of standard WC-DTP vaccine during infancy.
Selection Procedures: Children were randomly assigned to receive either WC-DTP or one of three lots of acellular diphtheria and tetanus toxoids and pertussis vaccine (DT-aP) in a 1:3 ratio at the 11 private practices and in a 1:1 ratio at the university-affiliated practice and inner-city university pediatric clinic.

Interventions: The DT-aP vaccines contained 23.4 μg each of pertussis toxin and filamentous hemagglutinin per 0.5 mL and the same concentrations of diphtheria and tetanus toxoids as WC-DTP. Serum samples were obtained on the day of immunization and 4 to 6 weeks later. Adverse reactions at 6, 24, 48, and 72 hours were recorded by parents who were contacted by telephone at 24 and 72 hours and 14 days after immunization.

Measurements/Main Results: An indirect enzyme-linked immunosorbent assay method was used to determine IgG antibody response to pertussis toxin and filamentous hemagglutinin and IgG, IgA, and IgM to tetanus toxoids; a Chinese hamster ovary cell assay was used to measure functional antibodies to pertussis toxin; serum neutralization on VERO cells assayed diphtheria antitoxin. Recipients of the DT-aP vaccine had fewer local reactions in the first 6 to 48 hours and fewer systemic reactions at 24 hours than did recipients of the WC-DTP vaccine. Acetaminophen was administered to 31% of DT-aP recipients compared with 63% of WC-DTP recipients. Infants given DT-aP had higher geometric mean antibody titer levels against pertussis antigens after vaccination.

Conclusions: The BIKEN DT-aP vaccine used in this study is less reactogenic and more immunogenic for selected pertussis antigens than the WC-DTP vaccine in children aged 15 to 20 months.

(1993;147:290-294) John F. Marcinak et al, MD, Department of Pediatrics (M/C 856), The University of Illinois at Chicago, 840 S Wood St, Chicago, IL 60612.

ARCHIVES OF SURGERY

Can Patients With Minor Head Injuries Be Safely Discharged Home?

To identify all patients with serious intracranial injury, current treatment strategies include admission and/or computed tomographic evaluation of all patients with head injuries. However, the majority of patients with head injuries who are awake do not require subsequent intervention. A review of 407 consecutive patients with head injuries treated at an adult regional trauma center identified 310 patients with Glasgow Coma Scores of 15 in the emergency department, all of whom were admitted. Five patients with Glasgow Coma Scores of 15 required intervention for intracranial abnormality. All five patients had skull fractures and/or neurologic deficits. Based on this and other studies, criteria for discharge from the emergency department are a Glasgow Coma Score of 15, no deficit except amnesia, no signs of intoxication, and no evidence of basilar fracture on clinical examination or linear fracture on screening skull roentgenography. Safe discharge without universal computed tomographic evaluation or admission is possible and cost-efficient.

(1993;128:289-292) Paul A. Taheri, MD, et al, Department of Surgery, Tulane University School of Medicine, 1430 Tulane Ave, New Orleans, LA 70112.

A Youth Violence Prevention Program: Description and Preliminary Evaluation

Problem Statement: In response to growing violence, primary prevention programs have been launched, but scientific rationale and credible evaluations have been lacking.
Methods: Fifth- and seventh-grade students in three inner-city schools (n=135) participated in a violence prevention program. Controls consisted of students from the same schools and grades during the following school year (n=115). Students were taught social problem-solving skills and risk factors for violence. Multivariate analyses were performed on posttest measures while controlling for baseline differences.
Results: Program participants were much less likely to define social problems in adversarial ways, were less likely to provide violent solutions in hypothetical conflict situations, listed more negative consequences to using violence, and were less inclined to legitimatize violence. Risk factor knowledge also was significantly increased. No increase was shown in the students' abilities to identify viable nonviolent solutions.
Conclusions: The program produced immediate influences on knowledge and some attitudes and social skills shown to be related to aggressive behavior.

(1993;128:303-308) Patricia S. Gainer, JD, MPA, et al. Reprint requests to Howard R. Champion, FRCS (Edin), Trauma, Surgical Critical Care, and Emergency Services, Washington Hospital Center, Room 4B-46, 110 Irving St NW, Washington, DC 20010.

Unexpectedly High Rate of Phlebographic Deep Venous Thrombosis Following Elective General Abdominal Surgery Among Patients Given Prophylaxis With Low-Molecular-Weight Heparin

One hundred ninety-four patients undergoing elective general abdominal surgery were randomized in a single-blind study to receive one daily subcutaneous injection of a low-molecular-weight heparin, dalteparin sodium (2500 IU, n=97) or nadroparin calcium (3075 IU, n=97), two regimens that are approved in Europe to prevent deep venous thrombosis. On the eighth postoperative day, bilateral ascending leg phlebography (n=185) showed the presence of deep venous thrombosis in 45 cases (24.3%; 95% confidence interval, 18% to 31%), with a significantly higher rate (on intention-to-treat) among the patients who received the lower dosage (30 vs 15 deep venous thromboses). We conclude that the two regimens of low-molecular-weight heparin that were used in this study failed to prevent postoperative phlebographically proved deep venous thrombosis in one of four patients.

(1993;128:326-328) Henri Bounameaux, MD, et al, Unit of Angiology, Department of Medicine, University Hospital of Geneva, CH-1211 Geneva H, Switzerland.

ARCHIVES OF NEUROLOGY

The Clinical Spectrum of Unruptured Intracranial Aneurysms

Objective: A retrospective study was performed to delineate the clinical characteristics of symptomatic unruptured aneurysms.
Design: Patient histories, operative reports, and angiograms in 111 patients with 132 unruptured aneurysms were reviewed.
Setting: Tertiary care university hospital.
Patients: One hundred eleven patients with 132 unruptured intracranial aneurysms were studied. There were 85 women and 26 men, with a mean age of 51.2 years (age range, 11 to 77 years). Many patients were referred by community neurologists and neurosurgeons for further evaluation and neurosurgical management.
Results: Fifty-four symptomatic patients were identified. Group 1 (n=19; mean aneurysm diameter, 2.1 cm) had acute symptoms: ischemia (n=7), headache (n=7), seizure (n=3), and cranial neuropathy (n=2). Group 2 (n=35; mean aneurysm diameter, 2.2 cm) had chronic symptoms attributed to mass effect: headache (n=18), visual loss (n=10), pyramidal tract dysfunction (n=4), and facial pain (n=3). Group 3 (n=57; mean aneurysm diameter, 1.1 cm) had asymptomatic aneurysms.
Conclusions: Acute severe headache, comparable to subarachnoid hemorrhage headache, but without nuchal rigidity, was associated with the following mechanisms: aneurysm thrombosis, localized meningeal inflammation, and unexplained. Unruptured aneurysms may be misdiagnosed as optic neuritis or migraine, or serve as a nidus for cerebral thromboembolic events. Internal carotid artery and posterior circulation aneurysms were more likely to cause focal symptoms from mass effect than were anterior cerebral artery and middle cerebral artery aneurysms. Weeks to years may elapse before their diagnosis. The absence of subarachnoid blood does not exclude an aneurysm as a cause for acute or chronic neurologic symptoms.

(1993;50:265-268) E. C. Raps, MD, et al, Department of Neurology, Hospital of the University of Pennsylvania, 3400 Spruce St, Philadelphia, PA 19104.