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CP Research News

Monday 4 August 2008

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1: J Speech Lang Hear Res. 2008 Jul 29. [Epub ahead of print]

Changes in Speech Production Associated with Alphabet Supplementation.

Hustad KC, Lee J.

Department of Communicative Disorders & Waisman Center, University of Wisconsin - Madison.

PURPOSE: This study examined the effect of alphabet supplementation (AS) on temporal and spectral features of speech production in individuals with cerebral palsy and dysarthria. **METHOD:** 12 speakers with dysarthria contributed speech samples using habitual speech and while using AS. 120 listeners orthographically transcribed speech samples. Differences between habitual and AS speech were examined for: intelligibility, rate, word duration, vowel duration, pause duration, pause frequency, vowel space, and first and second formant frequency (F1 and F2) values for corner vowels. **RESULTS:** Descriptive results showed that intelligibility was higher, rate of speech was slower, and pause duration and pause frequency were greater for AS than for habitual speech. Inferential statistics showed that vowel duration, word duration, and vowel space increased significantly for AS. Vowel space did not differ for male and female speakers; however there was an interaction between sex and speaking condition. Changes in vowel space were accomplished by reductions in F2 for /u/. Vowel space accounted for more variability in intelligibility than rate for AS; the opposite was true for habitual speech. **CONCLUSIONS:** AS is associated with temporal and spectral changes in speech production. Spectral changes associated with corner vowels appear to be more important than temporal changes.

PMID: 18664687 [PubMed - as supplied by publisher]

2: Nat Clin Pract Neurol. 2008 Jul 29. [Epub ahead of print]

Continuous intrathecal baclofen infusion for intractable spastic cerebral palsy-is it worth it?

Russman BS.

Please join us in February 2009 at the 3rd International Cerebral Palsy Conference in Sydney, Australia. Hosted by the CP Institute, keynote speakers include some of the world's leading cerebral palsy researchers. Earl bird registrations close 10 December 2008 www.cp2009.com.au

BS Russman is Director of Pediatric Neurology at Shriners Hospitals for Children-Portland as well as Professor of Pediatrics and Neurology at the Oregon Health and Science University, Portland, OR, USA.

This Practice Point commentary discusses a recent paper by Hoving et al., who compared the cost-effectiveness of continuous intrathecal baclofen infusion (CIBI) with that of 'standard care' in children with cerebral palsy whose abnormal muscle tone was interfering with function and/or quality of life. The current management of severe spasticity and dystonia in cerebral palsy consists of oral medications, botulinum toxin, selective dorsal rhizotomy, orthopedic surgery, and/or CIBI. CIBI is the treatment of choice for patients whose severely abnormal tone is interfering with their care, comfort, and/or quality of life. The added cost of care associated with the use of CIBI for 1 year is nearly twice that of standard care. However, on the basis of their cost-effectiveness analysis, which took into consideration the improvement in quality of life, Hoving et al. concluded that the added expense is cost-effective. Although this prospective study lasted for only 1 year and included only 15 patients, the conclusions are similar to those based on previously published results.

PMID: 18665144 [PubMed - as supplied by publisher]

3: J Child Neurol. 2008 Jul;23(7):846; author reply 846-7.

Correspondence on "prospective open-label clinical trial of trihexyphenidyl in children with secondary dystonia due to cerebral palsy".

Appendino JP, Soman T.

Publication Types:
Comment
Letter

PMID: 18658086 [PubMed - in process]

4: J Child Neurol. 2008 Jul;23(7):846-847.

Response to Correspondence on "Prospective Open-Label Clinical Trial of Trihexyphenidyl in Children With Secondary Dystonia due to Cerebral Palsy"

Sanger TD, Bastian A, Brunstrom J, Damiano D, Delgado M, Dure L, Gaebler-Spira D, Hoon A, Mink JW, Sherman-Levine S, Welty LJ.

Stanford University.

PMID: 18658085 [PubMed - as supplied by publisher]

5: J Child Neurol. 2008 Jul;23(7):818-22.

Effectiveness of selective dorsal rhizotomy in 2 patients with progressive spasticity due to neurodegenerative disease.

Grunt S, van der Knaap MS, van Ouwkerk WJ, Strijers RL, Becher JG, Vermeulen RJ.

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Selective dorsal rhizotomy at the lumbar level is a neurosurgical procedure, which reduces spasticity in the legs. Its effect has mainly been studied in children with spastic cerebral palsy. Little is known about

the outcome of selective dorsal rhizotomy in patients with neurodegenerative disorders. We report the clinical course after selective dorsal rhizotomy in 2 patients with progressive spasticity. Leg spasticity was effectively and persistently reduced in both patients, facilitating care and improving sitting comfort. However, spasticity of the arms and other motor disturbances, such as spontaneous extension spasms and the ataxia, increased gradually in time. Selective dorsal rhizotomy leads to a disappearance of leg spasticity in patients with a neurodegenerative disease. Other motor signs are not influenced and may increase due to the progressive nature of the underlying disease.

PMID: 18658081 [PubMed - in process]

6: J Child Neurol. 2008 Jul;23(7):726-8.

Is cerebral palsy a wastebasket diagnosis?

Sanger TD.

Publication Types:
Editorial

PMID: 18658072 [PubMed - in process]

7: Pediatrics. 2008 Jul;122(1):92-101.

Effects of higher versus lower dexamethasone doses on pulmonary and neurodevelopmental sequelae in preterm infants at risk for chronic lung disease: a meta-analysis.

Onland W, De Jaegere AP, Offringa M, van Kaam AH.

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OBJECTIVES: Systemic postnatal dexamethasone treatment reduces the risk of chronic lung disease in preterm infants but also may be associated with increased risk of neurodevelopmental impairment. Because it is not known whether these effects are modulated by the cumulative dexamethasone dose, we systematically reviewed the available randomized evidence on the effects of lower versus higher cumulative dexamethasone doses, in terms of death, pulmonary morbidity, and neurodevelopmental outcomes, in preterm infants. **METHODS:** Randomized, controlled trials comparing higher- versus lower-dosage dexamethasone regimens in ventilated preterm infants were identified by searching the main electronic databases, references from relevant studies, and abstracts from the Societies for Pediatric Research (from 1990 onward). Eligibility and quality of trials were assessed, and data on study design, patient characteristics, and relevant outcomes were extracted. **RESULTS:** Six studies that enrolled a total of 209 participants were included; 2 studies contrasted cumulative dexamethasone doses in the higher ranges (>2.7 mg/kg in the higher-dosage regimen) and 4 in the lower ranges (≤ 2.7 mg/kg in the higher-dosage regimen). Meta-analysis revealed no effect of dexamethasone dose on rates of death and neurodevelopmental sequelae in these 2 subgroups. Subgroup analysis of the studies contrasting dexamethasone doses in the higher ranges showed that the higher dose of dexamethasone was more effective in reducing the occurrence of chronic lung disease than was the lower dose. Interpretation of these data was hampered by the small samples of randomly assigned children, heterogeneity of study populations and designs, use of late rescue glucocorticoids, and lack of long-term neurodevelopmental data in some studies. **CONCLUSIONS:** Recommendations for optimal dexamethasone doses for preterm infants at risk for chronic lung disease cannot be based on current evidence. A well-designed, large, randomized, controlled trial is urgently needed to establish the optimal dexamethasone dosage regimen.

Publication Types:
Comparative Study

Meta-Analysis

PMID: 18595991 [PubMed - indexed for MEDLINE]

8: Pediatrics. 2008 Jul;122(1):65-74.

Patterns of cerebral injury and neurodevelopmental outcomes after symptomatic neonatal hypoglycemia.

Burns CM, Rutherford MA, Boardman JP, Cowan FM.

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BACKGROUND: Symptomatic neonatal hypoglycemia may be associated with later neurodevelopmental impairment. Brain injury patterns identified on early MRI scans and their relationships to the nature of the hypoglycemic insult and neurodevelopmental outcomes are poorly defined. **METHODS:** We studied 35 term infants with early brain MRI scans after symptomatic neonatal hypoglycemia (median glucose level: 1 mmol/L) without evidence of hypoxic-ischemic encephalopathy. Perinatal data were compared with equivalent data from 229 term, neurologically normal infants (control subjects), to identify risk factors for hypoglycemia. Neurodevelopmental outcomes were assessed at a minimum of 18 months. **RESULTS:** White matter abnormalities occurred in 94% of infants with hypoglycemia, being severe in 43%, with a predominantly posterior pattern in 29% of cases. Cortical abnormalities occurred in 51% of infants; 30% had white matter hemorrhage, 40% basal ganglia/thalamic lesions, and 11% an abnormal posterior limb of the internal capsule. Three infants had middle cerebral artery territory infarctions. Twenty-three infants (65%) demonstrated impairments at 18 months, which were related to the severity of white matter injury and involvement of the posterior limb of the internal capsule. Fourteen infants demonstrated growth restriction, 1 had macrosomia, and 2 had mothers with diabetes mellitus. Pregnancy-induced hypertension, a family history of seizures, emergency cesarean section, and the need for resuscitation were more common among case subjects than control subjects. **CONCLUSIONS:** Patterns of injury associated with symptomatic neonatal hypoglycemia were more varied than described previously. White matter injury was not confined to the posterior regions; hemorrhage, middle cerebral artery infarction, and basal ganglia/thalamic abnormalities were seen, and cortical involvement was common. Early MRI findings were more instructive than the severity or duration of hypoglycemia for predicting neurodevelopmental outcomes.

Publication Types:

Research Support, Non-U.S. Gov't

PMID: 18595988 [PubMed - indexed for MEDLINE]

9: Arch Argent Pediatr. 2008 Apr;106(2):119-25.

PRUNAPE: screening for psychomotor development problems at primary care level [Article in Spanish]

Lejarraga H, Menéndez AM, Menzano E, Guerra L, Biancato S, Pianelli P, Fattore MJ, De Raco P, Schejter V, Contreras MM, Glomba C, Bellusci C, Lusnig A, Rautenstrauch C, Paris V, Galeana A, Feinsilber V, Garay ML, Alves L, Del Pino M, Andrews M, Pagano A, Larigoitia D.

Crecimiento y Desarrollo, Hospital de Pediatría Prof. Dr. J.P. Garrahan, Ciudad de Buenos Aires. hlejarraga@garrahan.gov.ar

Information on prevalence, type of problems on psychomotor development (PPD) and conceptions of the professionals and parents that take part of a screening project was obtained by implementing a national screening test for PPD in 839 apparently healthy children aged 0-5 years attending three health centers

in San Isidro. Parents and professionals conceptions about the test and programme were studied with qualitative research approach. The test was administered by three previously trained pediatricians. General failure rate was 20.0%. Out of a total number of 170 children failing the test and referred to hospital for diagnosis and treatment, only 96 complied and went through a series of studies carried out by a multidisciplinary team for diagnosis, classified according to DSM-IV: global developmental delay: 60 children, pervasive disorders: 11, communication disorders: 10, motor disorders: 6 (2 children with cerebral palsy), attention deficit disorders: 5, attachment disorders: 2, normal children: 3. Co-morbidity was present in 22 affected children. Forty-three per cent of children failing the test did not comply with the indication of hospital referral or did not complete the studies. Qualitative investigation helped to understand the key role played by parents and professionals participating in the screening process. The fact that there are now 96 children with developmental disorders under treatment, supports the validity of the screening procedure implemented.

Publication Types:
English Abstract

PMID: 18661036 [PubMed - in process]



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