

Monday 18 October 2010

This free weekly bulletin lists the latest research on cerebral palsy (CP), as indexed in the NCBI, PubMed (Medline) and Entrez (GenBank) databases. These articles were identified by a search using the key term "cerebral palsy".

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## Interventions

### 1. Clin Rehabil. 2010 Oct 13. [Epub ahead of print]

#### **Pedometer-based gait training in children with spastic hemiparetic cerebral palsy: a randomized controlled study.**

Hamed NS, Abd-Elwahab MS.

Physical Therapy Department for Neuromuscular Disorders and its Surgery, Faculty of Physical Therapy, Cairo University, Egypt.

**Objective:** To study the effect of pedometer-based gait training on changing gait parameters in children with spastic hemiparetic cerebral palsy. **Design:** Two group randomized controlled trial with pre-treatment and post-treatment measures. **Setting:** Rehabilitation clinics. **Subjects:** Thirty spastic hemiparetic children with cerebral palsy of both sexes (13 females and 17 males) ranging in age from six to eight years old with mean age  $7.05 \pm 0.78$  years. **Interventions:** Children were randomized equally to receive pedometer-based gait training or a traditional gait training programme three times per week for three successive months. **Main measures:** Assessment was done before and after three months of treatment application using 3D motion analysis system with six pro-reflex cameras to evaluate spatiotemporal gait parameters. The primary outcome measure was the walking velocity while the secondary outcome measures were stride length, cadence and cycle duration. **Results:** There was a high statistically significant improvement in favour of the study group more than the control group concerning all the measured gait parameters. T-test results showed that velocity was  $0.68 \pm 0.09$  m/sec ( $0.26 \pm 0.07$  change score) for study group and  $0.42 \pm 0.11$  m/sec ( $0.06 \pm 0.05$  change score) for control group ( $t = 6.2$ ) ( $P < 0.0001$ ) while cadence was much less significant  $124.3 \pm 4.3$  step/min ( $-5.8 \pm 2.1$  change score) for study group and  $128.7 \pm 4.1$  step/min ( $-0.86 \pm 0.05$  change score) for control group ( $t = 2.8$ ) ( $P < 0.008$ ). **Conclusion:** Pedometer-based gait training is a useful tool that can be used in improving gait parameters in children with spastic hemiparetic cerebral palsy.

PMID: 20943714 [PubMed - as supplied by publisher]

### 2. Phys Occup Ther Pediatr. 2010 Oct 13. [Epub ahead of print]

#### **Content Range and Precision of a Computer Adaptive Test of Upper Extremity Function for Children With Cerebral Palsy.**

Montpetit K, Haley S, Bilodeau N, Ni P, Tian F, Gorton Iii G, Mulcahey MJ.

This article reports on the content range and measurement precision of an upper extremity (UE) computer adaptive testing (CAT) platform of physical function in children with cerebral palsy. Upper extremity items representing skills of all abilities were administered to 305 parents. These responses were compared with two traditional standardized measures: Pediatric Outcomes Data Collection Instrument and Functional Independence Measure for

Children. The UE CAT correlated strongly with the upper extremity component of these measures and had greater precision when describing individual functional ability. The UE item bank has wider range with items populating the lower end of the ability spectrum. This new UE item bank and CAT have the capability to quickly assess children of all ages and abilities with good precision and, most importantly, with items that are meaningful and appropriate for their age and level of physical function.

PMID: 20942642 [PubMed - as supplied by publisher]

### 3. J Hand Surg Eur Vol. 2010 Oct 8. [Epub ahead of print]

#### **The relation of patient satisfaction and functional and cosmetic outcome after correction of the wrist flexion deformity in cerebral palsy.**

Libberecht K, Sabapathy SR, Bhardwaj P.

Department of Plastic Surgery, Hand Surgery, Reconstructive Microsurgery and Burns, Ganga Hospital, Coimbatore, India.

Wrist flexion deformity in cerebral palsy is treated with flexor carpi ulnaris to extensor carpi radialis brevis transfer. The aim of the study was to assess the outcome of this procedure and analyse the determining factors for patient satisfaction. Fifteen patients were reviewed after a mean follow-up of 23 months. The functional and cosmetic outcome and patient satisfaction were evaluated using patient rated scales. There was a strong and significant correlation between the cosmetic outcome and patient satisfaction, but there was no significant correlation between functional improvement and patient satisfaction. When analysing the cosmetic outcome in relation to the time since surgery, there was a decrease in the patient rated improvement over time. It seems that patient satisfaction is mainly determined by the cosmetic result, but the improvement, or the perception of it, tends to diminish over time. Fourteen out of 15 patients felt that the procedure was worthwhile and eight of them felt that the result was good or excellent.

PMID: 20935023 [PubMed - as supplied by publisher]

### 4. Eur J Phys Rehabil Med. 2010 Sep;46(3):369-76. Epub 2010 Jul 1.

#### **The perception of involved professionals towards research feasibility and usefulness: lessons from the Multi-Site Trial on Efficacy of Constraint Induced Movement Therapy in Children with Hemiplegia.**

Rosa-Rizzotto M, Visonà Dalla Pozza L, Turconi AC, Tornetta L, Andreucci E, Zambonin F, Fedrizzi E, Facchin P; Gipci Study Group.

Collaborators (24) Ancona V, Cazzagon M, Cerioli M, Fazzi E, Germiniasi C, Inverno M, La Gamba A, Noja AM, Mandalari P, Martinuzzi A, Marzaroli M, Megliani C, Nacinovich R, Pagliano E, Picciolini O, Ranzato C, Sabbadini M, Setaro A, Signorini S, Stortini M, Trabacca A, Visonà dalla Pozza L, Ursula Z, Di Brina C.

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**BACKGROUND:** In the last decades, the world of rehabilitation has been more and more calling for clear evidence to support intervention and numerous research programs have been developed. At stake, relatively little research on opinions and attitude of rehabilitation personnel involved in research conducted in real clinical settings has been carried out. **AIM:** To explore the opinion of professionals involved in a national clinical trial on research. **DESIGN:** Multicentre cross-sectional study. **SETTING:** 19 rehabilitation centres/services (4 research institutes, 15 local rehabilitation services). **POPULATION:** All professional participating to a multi-centre clinical trial on the effects of Constraint Induced Movement Therapy on children with hemiplegic cerebral palsy. **METHODS:** A 15-questions questionnaire inquiring feasibility, usefulness, products, costs, judgement and perceptions about clinical research in rehabilitation was administered. **RESULTS:** Among those working in one of the 19 rehabilitation centres part of the multicentric study, 76 professionals were asked to fill in the questionnaire. 68 professionals answered (89.4% of response rate). More than 75% of the sample thinks that its rehabilitation centre is suited to develop clinical research. Research results useful for the development of their daily activities (new tools for the assessment of chil-

dren, to demonstrate the efficacy of a new treatment option and to learn a new way of working, and to strengthen the ties within the working team). Research is costly in terms of personal time and effort, but it can modify the rehabilitation praxis (assessment tools, the relationship with colleagues/patients). 98% of the interviewees declared the willingness to participate to other research projects. **CONCLUSION AND CLINICAL REHABILITATION IMPACT:** This survey highlights the importance of conducting research in local rehabilitation services, not only in terms of generation of new evidences, but also in terms of building networks, sharing experiences and knowledge, connecting with centers of excellence and providing a specific training for research conduction.

PMID: 20927003 [PubMed - in process]

## 5. Spine (Phila Pa 1976). 2010 Oct 14. [Epub ahead of print]

### Posterior Multilevel Vertebral Osteotomy for Severe and Rigid Idiopathic and Nonidiopathic Kyphoscoliosis: A Further Experience With Minimum Two-Year Follow-up.

Modi HN, Suh SW, Hong JY, Yang JH.

From the Department of Orthopedics, Scoliosis Research Institute, Korea University Guro Hospital, Seoul, South Korea.

**STUDY DESIGN.:** Prospective randomized study. **OBJECTIVE.:** To evaluate the clinical and radiologic outcome of posterior multilevel vertebral osteotomy (PMVO) in patients with severe kyphoscoliosis. **SUMMARY OF BACKGROUND DATA.:** Authors have developed and reported results of PMVO for correction of neuromuscular scoliosis. PMVO has advantages such as, posterior-only procedure which avoids risk to pulmonary complications and gives satisfactory correction. However, its effect in correcting severe scoliosis in presence of rigid kyphosis has not been reported. **METHODS.:** Thirteen patients (7 idiopathic, 4 cerebral palsy, and 2 congenital scoliosis) with severe and rigid kyphoscoliosis were operated by posterior-only correction with pedicle screw fixation using PMVO. As per pathology, and associated severity of kyphosis little modification in the original technique was applied while correction and osteotomy. Neuromonitoring was applied in all patients during operation. The radiologic and clinical results were evaluated with an average follow-up of  $42.9 \pm 11$  months. All postoperative complications were also noted during the follow-up period. **RESULTS.:** Average number of osteotomy was  $4.2 \pm 0.8$  (range, 3-5). Average preoperative Cobb angle, pelvic obliquity, thoracic kyphosis, and lumbar lordosis were  $99.2^\circ \pm 29.6^\circ$ ,  $8.6^\circ \pm 9^\circ$ ,  $73.6^\circ \pm 56.9^\circ$ , and  $-47.2^\circ \pm 63.2^\circ$ , respectively, which improved after surgery to  $44.7^\circ \pm 12.3^\circ$ ,  $2.8^\circ \pm 2.9^\circ$ ,  $45.3^\circ \pm 15.9^\circ$ , and  $-47.7^\circ \pm 12.2^\circ$ . All corrections were maintained at final follow-up. A 54.3% correction was achieved in coronal plane; and, full correction was achieved in sagittal plane as thoracic kyphosis was restored within normal range. Average blood loss and operative time was  $3015 \pm 1213$  mL and  $6.01 \pm 1.09$  hours, respectively. Three patients had postoperative respiratory complications; 2 had hemothorax and 1 had atelectasis; none had follow-up consequences. All pulmonary complications were due to associated thoracoplasty during which pleura was ruptured intraoperatively. Two patients had complication related with the implants; 1 screw breakage and other screw prominence. There was no neurologic injury intraoperatively on motor-evoked potentials (MEP) or clinically after surgery. **CONCLUSION.:** PMVO exhibited satisfactory clinical and radiologic results in patients with severe and rigid scoliosis associated with hyperkyphosis at minimum 2-year follow-up. It can be safely applied with modifications in original technique for complex congenital scoliosis with multilevel hemi or block vertebrae and idiopathic/nonidiopathic spinal deformities.

PMID: 20948461 [PubMed - as supplied by publisher]

## 6. Orthop Clin North Am. 2010 Oct;41(4):561-77.

### Management of the knee in spastic diplegia: what is the dose?

Young JL, Rodda J, Selber P, Rutz E, Graham HK.

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This article discusses the sagittal gait patterns in children with spastic diplegia, with an emphasis on the knee, as well as the concept of the "dose" of surgery that is required to correct different gait pathologies. The authors list the

various interventions in the order of their increasing dose. The concept of dose is useful in the consideration of the management of knee dysfunction.

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PMID: 20868885 [PubMed - indexed for MEDLINE]

## **7. Folia Phoniatr Logop. 2010 Oct 12;63(4):187-194. [Epub ahead of print]**

### **Vowel Contrast and Speech Intelligibility in Dysarthria.**

Kim H, Hasegawa-Johnson M, Perlman A.

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**Background/Aims:** This study examined the spectral characteristics of American English vowels in dysarthria associated with cerebral palsy (CP), and investigated the relationship between a speaker's overall speech intelligibility and vowel contrast. **Methods:** The data were collected from 12 American English native speakers (9 speakers with a diagnosis of CP and 3 controls). Primary measures were F(1) and F(2) frequencies of 3 corner vowels /i, a, u/ and 3 noncorner vowels /l, ɜ, ɹ/. Six acoustic variables were derived from the formant measures, and were regressed against intelligibility: corner vowel space, noncorner vowel space, mean distance between vowels, F(1) and F(2) variability, and overlap degree among vowels. **Results:** First, the effect of vowel was significant for both F(1) and F(2) measures for all speakers, but post hoc analysis revealed a reduced distinction at lower intelligibility. Second, regression functions relating intelligibility and acoustic variables were significant for overlap degree among vowels, F(1) variability, corner vowel space and mean distance between vowels. Overlap degree among vowels accounted for the greatest amount of variance in intelligibility scores. **Conclusion:** A speaker's overall intelligibility in dysarthric speech is better represented by the overlap degree among vowels than by the vowel space.

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PMID: 20938200 [PubMed - as supplied by publisher]

## **8. Adv Med Sci. 2010 Oct 8:1-6. [Epub ahead of print]**

### **Dysphagia in children with infantile cerebral palsy.**

Otapowicz D, Sobaniec W, Okurowska-Zawada B, Artemowicz B, Sendrowski K, Kułak W, Boćkowski L, Kuzia-Śmigielńska J.

Department of Pediatric Neurology and Rehabilitation, Medical University of Białystok, Białystok, Poland.

**Purpose:** Dysphagia is a significant health problem in children with infantile cerebral palsy (ICP), but not frequently discussed in the literature. The study objective was to analyse dysphagia symptoms in children with a pyramidal form of ICP, including the oral and pharyngeal phases of deglutition and dysarthria severity. We searched for a correlation between dysphagia severity and ICP type, mental development and occurrence of epilepsy. **Material and Methods:** A total of 67 children with a pyramidal form of infantile cerebral palsy were studied. Data were obtained based on case history elicited from the mothers, analysis of medical and psychological documentation, and logopaedic examination, including an examination of the action of swallowing. **Results:** Dysphagia symptoms were found in 41 (61%) studied children, most frequently referring only to the oral phase (25 children), with concomitant mild and moderate dysarthria. Oral and pharyngeal dysfunctions were observed in 14 children and coexisted with more pronounced dysarthria symptoms. The most severe disorders were mainly found in the pharyngeal phase in 2 children. A statistically significant correlation was noted between the severity of dysphagia symptoms and the ICP type ( $p < 0.044$ ) and mental development ( $p < 0.00002$ ). **Conclusions:** Swallowing dysfunctions occur in the majority of children (>50%) with ICP. More serious disorders involving the oral and pharyngeal phases mainly affect children with tetraplegia and profound mental impairment. These disorders continue from early infancy through childhood and adolescence and improvement has been mainly observed when only the oral phase of swallowing is affected. These are always accompanied by dysarthria symptoms, which are especially severe when dysphagia involves the oral and pharyngeal phases. Early assessment and stimulation of the swallowing function should be a common ele-

ment in the rehabilitation and care of children with ICP.

PMID: 20934964 [PubMed - as supplied by publisher]

## 8. ACS Chem Biol. 2010 Oct 11. [Epub ahead of print]

### Transient Relief of Botulinum Neurotoxin/A Intoxication with Aminopyridines - A New Twist on an Old Molecule.

Mayorov AV, Willis B, Di Mola A, Adler D, Borgia J, Jackson O, Wang J, Luo Y, Tang L, Knapp RJ, Natarajan C, Goodnough M, Zilberberg N, Simpson L, Janda K.

Botulinum neurotoxins (BoNT) are the etiological agents responsible for botulism, a disease characterized by peripheral neuromuscular blockade and a characteristic flaccid paralysis of humans. BoNT/A is the most toxic protein known to man and has been classified by the Centers of Disease Control (CDC) as one of the six highest-risk threat agents for bioterrorism. Of particular concern is the apparent lack of clinical interventions that can reverse cellular intoxication. Efforts to uncover molecules that can act within an intoxicated cell so as to provide transient relief to BoNT/A are paramount. Aminopyridines have shown clinical efficacy for multiple sclerosis treatment as well as BoNT/A intoxication; yet, aminopyridines for BoNT/A treatment has been abandoned because of blood brain barrier (BBB) penetration producing undesired neurotoxic side effects. Two aminopyridines, (<b>5</b> and <b>11</b>), were contrast to the current "gold-standard" 3,4-diaminopyridine utilizing Shaker-IR K<sub>V</sub>1.x channels and were investigated for their ability to delay the onset of paralysis for BoNT/A in phrenic nerve-hemidiaphragm preparations. Importantly, pharmacokinetic experiments revealed a lack of BBB penetration of <b>5</b>, which is a significant advancement toward resolving the neurotoxicity issues associated with prolonged 3,4-DAP treatments. Finally, <b>5</b> was found to be as effective as 3,4-DAP in rescuing BoNT-poisoned mice in the mouse lethality assay, signifying an optimized balance between the undesired permeability across the BBB, and the required permeability across lipid cellular membranes. The results demonstrate that aminopyridines should be reconsidered as promising small molecule K<sup>+</sup> channel modulators for the treatment of BoNT/A intoxication.

PMID: 20936877 [PubMed - as supplied by publisher]

## 9. Phys Ther. 2010 Oct 7. [Epub ahead of print]

### Determinants of Social Participation--With Friends and Others Who Are Not Family Members--for Youths With Cerebral Palsy.

Kang LJ, Palisano RJ, Orlin MN, Chiarello LA, King GA, Polansky M.

L.-J. Kang, PT, PhD, was a doctoral candidate in the Department of Physical Therapy and Rehabilitation Sciences, College of Nursing and Health Professions, Drexel University, Mail Stop 502, 245 N 15th St, Philadelphia, PA 19102-1192 (USA), when this study was completed.

**Background:** Social participation provides youths with opportunities to develop their self-concept, friendships, and meaning in life. Youths with cerebral palsy (CP) have been reported to participate more in home-based leisure activities and to have fewer social experiences with friends and others than youths without disabilities. **Objective:** The objective of this study was to identify youth, family, and service determinants of the participation of youths with CP in leisure activities with friends and others who are not family members. **Design** The study design was a cross-sectional analysis. **METHODS:** The participants were 209 youths who were 13 to 21 years old (52% male), had CP, and were classified in Gross Motor Function Classification System (GMFCS) levels I to V and their parents. The participants were recruited from 7 children's hospitals in 6 different states. Youths completed the Children's Assessment of Participation and Enjoyment in structured interviews. Parents completed the Coping Inventory, Pediatric **OUTCOMES:** Data Collection Instrument, Family Environment Scale, Measure of Processes of Care, and demographic and service questionnaires. Researchers determined GMFCS levels. A sequential multiple regression analysis was used to determine the youth, family, and service variables that predicted participation with friends and with others who were not family members. **RESULTS:** Sports and physical function, communication or speech problems, educational program, and the extent to which the desired community recreational activities were obtained explained 45.8% of the variance in the number of activities engaged in with friends. A higher level of parental education explained 6.3% of the variance in the number of activities engaged in with others who were not family mem-

bers. Limitations: The youths' activity preferences and intensity of participation were not examined. CONCLUSIONS: Youth and service characteristics were determinants of participation with friends but not others who were not family members. The findings have implications for the role of physical therapists in promoting sports and physical and communication abilities and enhancing community opportunities to optimize the social participation of youths with CP.

PMID: 20930051 [PubMed - as supplied by publisher]

## Epidemiology / Aetiology / Diagnosis & Early Treatment

*Please note: This is not yet a comprehensive outline of cerebral palsy prevention literature. It is expected that more research will be included when the search terms are expanded to include key terms other than "cerebral palsy". It is a work-in-progress and it will be expanded in coming months.*

### 10. Neuroepidemiology. 2010 Oct 14;35(4):291-297. [Epub ahead of print]

#### Epidemiology of Major Neurological Disorders Project in Al Kharga District, New Valley, Egypt.

El Tallawy HN, Farghaly WM, Rageh TA, Shehata GA, Metwaly NA, Elftoh NA, Hegazy AM, El Moselhy EA, Rayan I, Al Fawal BM, Abd Elhamed MA.

Department of Neurology, Assiut University, Assiut, Egypt.

**Background/Methods:** A door-to-door ('every door') study was carried out to assess the incidence and prevalence rates of epilepsy, stroke, Bell's palsy and cerebral palsy, as well as the prevalence of dementia, extrapyramidal syndromes, muscle and neuromuscular disorders, cerebellar ataxia and primary nocturnal enuresis among the urban and rural populations of Al Kharga district, New Valley, Egypt. The study was carried out in 3 stages from June 1, 2005 to May 31, 2009. A door-to-door screening including every door was carried out using a standardized questionnaire, which was administered by 3 neurologists to all inhabitants (62,583) of Al Kharga district. The study was designed to assess the prevalence, incidence and risk factors of major neurological disorders in Al Kharga district and aimed to reduce the burden of these neurological disorders in the entire region. **Results/Conclusions:** This study clarified that dementia, primary nocturnal enuresis, epilepsy, stroke and cerebral palsy are the most common neurological disorders. On the other hand, Bell's palsy, extrapyramidal syndromes, cerebellar ataxia, muscle dystrophies and myasthenia gravis are less common neurological disorders in Al Kharga district.

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PMID: 20948236 [PubMed - as supplied by publisher]

### 11. BMJ. 2010 Oct 6;341:c4990. doi: 10.1136/bmj.c4990.

#### Association of cerebral palsy with Apgar score in low and normal birthweight infants: population based cohort study.

Lie KK, Grøholt EK, Eskild A.

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Comment in:

BMJ. 2010;341:c5175.

**OBJECTIVES:** To assess the association of Apgar score 5 minutes after birth with cerebral palsy in both normal weight and low birthweight children, and also the association with the cerebral palsy subdiagnoses of quadriplegia, diplegia, and hemiplegia. **DESIGN:** Population based cohort study. **SETTING:** The Medical Birth Registry of Norway was used to identify all babies born between 1986 and 1995. These data were linked to the Norwegian Registry of

Cerebral Palsy in Children born 1986-95, which was established on the basis of discharge diagnoses at all paediatric departments in Norway. POPULATION: All singletons without malformations born in Norway during 1986-95 and who survived the first year of life (n=543 064). MAIN OUTCOME MEASURE: Cerebral palsy diagnosed before the age of 5 years. RESULTS: 988 children (1.8 in 1000) were diagnosed with cerebral palsy before the age of 5 years. In total, 11% (39/369) of the children with Apgar score of less than 3 at birth were diagnosed with cerebral palsy, compared with only 0.1% (162/179 515) of the children with Apgar score of 10 (odds ratio (OR) 53, 95% CI 35 to 80 after adjustment for birth weight). In children with a birth weight of 2500 g or more, those with an Apgar score of less than 4 were much more likely to have cerebral palsy than those who had an Apgar score of more than 8 (OR 125, 95% confidence interval 91 to 170). The corresponding OR in children weighing less than 1500 g was 5 (95% CI 2 to 9). Among children with Apgar score of less than 4, 10-17% in all birthweight groups developed cerebral palsy. Low Apgar score was strongly associated with each of the three subgroups of spastic cerebral palsy, although the association was strongest for quadriplegia (adjusted OR 137 for Apgar score <4 v Apgar score >8, 95% CI 77 to 244). CONCLUSIONS: Low Apgar score was strongly associated with cerebral palsy. This association was high in children with normal birth weight and modest in children with low birth weight. The strength of the association differed between subgroups of spastic cerebral palsy. Given that Apgar score is a measure of vitality shortly after birth, our findings suggest that the causes of cerebral palsy are closely linked to factors that reduce infant vitality.

PMID: 20929920 [PubMed - indexed for MEDLINE]PMCID: PMC2952090Free PMC Article

## 12. BMJ. 2010 Oct 6;341:c5175. doi: 10.1136/bmj.c5175.

### Apgar score and risk of cerebral palsy.

Paneth N.

Comment on:

BMJ. 2010;341:c4990.

PMID: 20929921 [PubMed - indexed for MEDLINE]

## 13. Ann Clin Lab Sci. 2010 Fall;40(4):375-9.

### Clinical and genetic analysis of a Korean family with hereditary spastic paraplegia type 3.

Kwon MJ, Lee ST, Kim JW, Sung DH, Ki CS.

Department of Physical Medicine and Rehabilitation, Samsung Medical Center, 50 Irwon-dong, Gangnam-gu, Seoul, Korea, 135-710.

Hereditary spastic paraplegia (HSP) is a neurodegenerative disease characterized by progressive spasticity in the lower extremities. Mutations in the atlastin GTPase 1 (ATL1) gene cause approximately 10% of autosomal dominantly inherited HSP. For many subjects with an ATL1 mutation, spastic gait begins in early childhood and does not significantly worsen, even over many years; such cases resemble spastic diplegic cerebral palsy. Herein we report a heterozygous R239C mutation in the ATL1 gene in a Korean family. The family members exhibited early onset pure spastic paraplegia and had been previously diagnosed with the diplegic form of cerebral palsy. We suggest that spastic paraplegia type 3 (SPG3A) be included in the differential diagnosis of early onset spastic paraplegia. To the best of our knowledge, this is the first report of a genetically confirmed family affected with SPG3A in Korea.

PMID: 20947813 [PubMed - in process]

**14. Prescrire Int. 2010 Aug;19(108):168-9.****Risk of preterm delivery: a single course of antenatal corticosteroids.**

[No authors listed]

For women at risk of delivery before 34 weeks of gestation, administration of betamethasone or dexamethasone for 24 or 36 hours reduces neonatal morbidity and mortality. In a double-blind randomised trial involving 1858 pregnant women, who received either a single course of corticosteroids or multiple courses every 14 days, no statistically significant difference in the rates of mortality and respiratory morbidity were observed during the 28 first days of life. Newborns had decreased height, weight and head circumference in the group treated every 14 days. No difference in outcome was noted at 2 years among 1047 infants whose mothers had received a single course of betamethasone or weekly treatment up to 32 weeks of gestation. Similarly, no difference in outcome was observed among 556 children whose mothers had received an initial course of betamethasone followed by regular injections of either betamethasone or placebo. However, 6 children (2.9%) exposed to repeated maternal treatment developed cerebral palsy, versus only one of the children (0.5%) exposed to a single course, indicating that repeat courses of antenatal corticosteroids might have a detrimental effect. In practice, it seems prudent to only use a single course of corticosteroids in this setting.

PMID: 20939450 [PubMed - in process]