CEREBRAL PALSY & NEURODISABILITY

P1

ASSOCIATION OF SOCIOECONOMIC STATUS OF PARENTS WITH CEREBRAL PALSY IN CHILDREN

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Objective: This study was done to find out the association between socio economic condition with cerebral palsy.

Design: This was a hospital based cross sectional study.

Method: It was conducted from October' 2011 to September' 2012 among 45 cerebral palsy cases and 45 age matched non CP children as control.

Result: Socioeconomic condition (mother education and occupation) showed 71.1 % of the cases were in lower economic class group, 46.7% in upper middle class (X2= 18.043, df=1, p<.000). On the other hand socioeconomic condition (father education and occupation) also showed statistically significant relationship with the cerebral palsy (X2= 12.141, df=1, p<.001). This study showed an association with maternal education (X2= 18.842, df=5, p<.01), residential status (X2= 32.411, df=3, p<.000), monthly family income (X2= 25.350, df=5, p<.000). Prematurity had a significant role in developing cerebral palsy (X2= 68.100, df=1, p<.000). There was a highly significant relationship between the low birth weight and developing cerebral palsy. (X2= 46.080, df=1, p<.000). Perinatal problem of the child showed a relation with cerebral palsy (X2= 29.221, df=1, p<.000), where 44.4% were suffering from perinatal asphyxia, 13.3% with meningitis, 13.3% TORCH infection, 6.7% neonatal jaundice.

Conclusion: A strong association was observed between socioeconomic status and the risk of cerebral palsy.

P2

ADAPTING THE SNIFFIN' STICKS SMELL IDENTIFICATION TEST FOR THE PAEDIATRIC POPULATION

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Introduction: Olfaction is impaired in various adult neurodegenerative conditions, but little is known about smell loss in children. The 16 item smell identification test from Sniffin' Sticks (SS16) is one of the most widely used commercial smell tests for adults. We have produced and tested a child-friendly adaptation of the SS-16 suitable for children.

Methods: The initial pilots were tested in 29 children and 23 adults for comparison. Throughout the pilots the options for the test were replaced by colourful pictures, and a picture identification test (PIT16) was used to evaluate familiarity of the 16 items. For unfamiliar items the name of the item was replaced by a similar option, while distractors were also replaced by items more familiar to children (such as popcorn, cake, etc.) which were not in the test.

Results: The final SS16-Child was applied to 51 children with a mean age of 9.9 (range 3-18, SD=4.25), of which 36 (68.3%) were girls. Mean score in the SS16-Child was 13.9 (range 4-16, SD=2.72); mean score in the PIT16 was 15.5 (range 12-16, SD=0.9); and there was a significant correlation between age, SS16-Child and PIT16 (p<0.001 for all pairs). There was a strong independent correlation between the PIT16 and SS16-Child results (adjusted for age r=0.75, p<0.001).

Discussion/Conclusions: An adapted version of the SS16 can be used to test olfaction in children older than 3 years. Interpretation of its results must take into consideration the age of the child, as well as the performance in the PIT16.

P3

PSYCHIATRIC DISORDER ASSOCIATED WITH CEREBRAL PALSY

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Introduction: Cerebral palsy (CP) is defined as an on going developmental disorder of posture and movement, causing activity limitation, attributed to a non-progressive disorder that occurs in early brain development. The motor disorder in CP is often accompanied by disturbances of sensation, perception, cognition, communication, behaviour and epilepsy. A higher incidence of psychiatric and developmental disorders is seen.

Patients and Methods: Screening was done by the Paediatric Symptom Checklist (PSC) in 470 patients aged 1 to 18 incomplete years with CP and subsequently evaluated by two different examiners. Cognitive level was also measured by standardized testing.

Results: 170 patients (41.4%) had intellectual disability (ID) associated with CP, 11 (2.3%) patients without DI, were diagnosed with Attention Deficit Hyperactivity Disorder and 16 (3.3%) with Autism Spectrum Disorder (ASD), 11 of these being associated with DI. Seven patients (1.4%) had behavioral disorders, 10 (2.1%) had a diagnosis of anxiety disorder, 3 (0.3 %) of depression, 2 (0.4 %) with psychotic disorders, and 1 patient with dissociative disorder. Epilepsy was present in 228 (48.5 %) patients. Could not correlate significantly the type of CP and the presence or absence of epilepsy in subgroups, except for ASD that were more frequent in left hemiparetic CP.

Conclusion: These results indicate that the occurrence of psychiatric disorders in CP should be actively investigated because its occurrence causes functional and quality of life loss. Accurate diagnosis of comorbid conditions is of paramount importance to the best treatment plan.

P4

PERSPECTIVES OF EDUCATORS REGARDING PHYSICAL THERAPY WORK IN AN INCLUSIVE CONTEXT

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The educational inclusion of students with disabilities in regular schools requires transformations in traditional teaching paradigms and greater communication between the fields of health and education for the establishment of effective multidisciplinary actions that favour the development of these children. The aim of the present study was to investigate the perceptions of educators in elementary school regarding work-involving students with disabilities and the possible contribution of physiotherapists in this context. A qualitative study was carried out involving the administration of a questionnaire to 14 educators at a school in the city of Rio Claro (state of São Paulo, Brazil) that employs inclusive principles. The results underscore the need for further discussion and the implementation of multidisciplinary actions involving educators and health professionals (in this specific case, teachers and physiotherapists) to provide a truly inclusive environment that meets the requirements of the principle of quality education for everyone.

P5

EVALUATION NUTRITIONAL AND GASTROINTESTINAL DISORDERS IN HEALTHY AND CEREBRAL PALSY PATIENTS

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Introduction: The appropriate digestive control depends of the central and peripheral nervous system integrity. Cerebral Palsy (CP) present postural changes due to injury in the immature brain, and common comorbidities related to the site of injury, including gastrointestinal disorders.

Objectives: To assess the nutritional status and presence of gastrointestinal disorders in patients with CP and to compare with a healthy population.

Methodology: Parents who agreed to participate, answered the questionnaires about dietary habits and gastrointestinal. After, we compared CP and healthy population.

Results: 339 patients (mean age: 116 months) were assessed, 254 PC were males. Motor Function Classification System (GMFCS) 55 were level I, 73 level II, 33 level III, 37 level IV and 56 level V. The mean of Body Mass Index (BMI) was 17.23 on PC group. Control group had 85 health patients (mean age: 109 months) and the BMI was 19.9. The median gestational age (p<0.001), birth weight (p<0.001) and breastfeeding (p=0.01) was

lower in CP patients. Constipation was found in 22.7 % of the control group and 48 % of CP patients (p=0.04), more evident on GMFCS level III (p=0.01) and level V (p=0.006). The probability of pain to evacuate was higher in the CP group (p=0.009).

Conclusions: Cerebral Palsy patients have lower time of breastfeeding and lower BMI, so, it explains the higher incidence of constipation and the pain to evacuate. To understand those results, the influence of mobility, intake, medications and functional levels should be better study.

P6

THE CLINICAL RESEARCH OF EARLY INTERVENTION TO CEREBRAL SUB-HEALTH INFANTS BY TRADITIONAL CHINESE MEDICINE

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OBJECTIVE: To observe the effect of early intervention to cerebral sub-health infants by TCM (Traditional Chinese Medicine).

METHODS: 60 cases clinical cured cerebral sub-health infants aged 2m~6m with moderate to severe brain damage in perinatal period were early intervened mainly by our TCM, mainly by massage of attacking vital points of DU meridian, benefiting kidney, strengthening the qi of spleen and five-elements music listening treatment, assisted with physical therapy etc. The course of the intervention was 3 months.. The DQ of Gesell was compared before intervention, 3months and 18 months after intervention.

RESULTS: 3 months and 18 months after the intervention, the DQ of the infants were increased compared with the DQ before the intervention. And the difference is significant for statistics (P<0.001). 18 months after the intervention, the DQ of 45 cases were higher than 70.

CONCLUSION: The intervention by TCM can reduce the probability of the occurrence of cerebral palsy, mental retardation and other sequelae which were caused by perinatal brain damage, and promote the development of movement, cognitive, language, social and other functions. And its mechanism may be related to the promotion of brain development, promoting damaged neuronal repair

P8

OBSERVATION OF EFFECT ON NEURAL DEVELOPMENT ON MASSAGE OF TONGDUXINGNAO AND YISHENJIANPI IN THE BRAIN DAMAGE IN PRETERM INFANTS

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Objective The effects of the two groups is compared to see whether there are superiority in early intervention of brain damage in preterm infants with the Massage of Tongduxingnao and Yishenjianpi. Whether to further established the important position of traditional Chinese medicine in the early intervention of brain damage in premature infants. Methods 82 infants with Brain damage in preterm infants were selected, randomly divided into two groups. The experimental group received the treatment of Massage of Tongduxingnao and Yishenjianpi combined with routine intervention. The control group received Massage of Sensory Stimulation combined with routine intervention. The Gross Motor Function Measure, Bayley scales of infant development II (MDI, PDI) and the Gesell Developmental Scales were tested before, right after and 3 months after the treatment designed. Results The children's development quotients (DQ) and GMFM (A, B) areas in both groups are improved. The experimental group has a significant superiority in improving the DQ of gross motor function by Gesell Developmental Scales and GMFM (B area) compared with the control group (P<0.05), but no discrepancy in the others. After the treatment, the score of experimental group reach normalization in Mental Development Index (MDI) and Psychomotor Development Index (PDI) by BSID is higher compared with the control group (P>0.05). Conclusion The Massage of Tongduxingnao and Yishenjianpi and the Massage of Sensory Stimulation can promote the developmental level of the intelligence and gross motor function, and The Massage of Tongduxingnao and Yishenjianpi has a significant superiority in improving the DQ of gross motor function and sitting position (B area of GMFM).

Keywords: Brain damage in preterm infants; early intervention; Chinese massage

P9

IN VITRO FERTILIZATION AND CEREBRAL PALSY; THE PETŐ INSTITUTE EXPERIENCE

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Background: In vitro fertilization (IVF) may increase the risk of future cerebral palsy (CP).

Apart from prematurity, the most common risk factors include protracted or precipitate labour, placental abnormalities, infections, lasting mechanical ventilation and multiple pregnancies.

Methods: We examined children born from IVS, their handicap, and the type of cerebral palsy and compared with children from control population of same age, from the same district. We analysed both groups according to the factors which co-vary with CP such as multiple births, preterm births, neonatal complications and parents age.

Results: The incidence of IVS amongst children with CP was doubled compared with the control kindergarten. All children were born from twin pregnancies. More than 2 embryos were transferred in 64% of cases. In our group, CP was most likely a consequence of an increased risk of neonatal morbidity associated with multiple pregnancies.

Conclusion: Our case-series favours a more widespread use of single embryo transfer.

P11

IMPACT OF EDUCATIONAL INTERVENTION USING COMMUNICATION STRATEGIES ON KNOWLEDGE AND ATTITUDES OF FIRST YEAR HEALTH PROFESSIONAL STUDENTS TOWARDS CEREBRAL PALSY.

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Introduction: Cerebral Palsy (CP) affects quality of life of children, parents and families. Sometimes preventable, early detection and intervention can improve outcome. Awareness is low, mostly due to a huge information gap. This study aims to assess whether educational intervention using communication strategies helps improve knowledge and attitudes towards CP.

Methods: Ninety students of first year of medicine, nursing and physiotherapy, (30 each) were included in this interventional study. A prevalidated questionnaire for assessing knowledge and attitudes about CP was administered before, soon after and one month post intervention. The content was delivered as a health talk, poster or audio visual ppt. Statistical analysis was done using SPSS.

Results: Educational Intervention using communication strategies for delivering information showed statistically significant increase in knowledge of the group about all aspects (definition, causes, symptoms, treatment and prevention) of CP (p=0.000), soon after intervention. Retention and recall was good at one month after single intervention for all aspects except measures to prevent CP. Knowledge of measures to prevent CP rose from 7.8% to 92.2% soon after intervention (Chi sq 128.356, p=0.000***) and dropped to 51.1% (Chi sq 37.532, p=0.000***). Reactions to persons with CP were tolerance in 46.7%, kindness in 77.8%, sympathy in 65.5%, and indifference in 10% and negative in 18.5%. A month later more students felt kindness (91.1%).

Conclusion/ Discussion: These communication strategies can be extrapolated to mass media. Communication through mass media appears to be the best, cost effective strategy to maximize impact and improve knowledge and attitudes towards CP.

P12

A STUDY OF SKELETAL MATURATION AND MINERALISATION OF CHILDREN WITH SPASTIC QUADRIPLEGIA

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Objectives: Diminished bone mineral density and delayed skeletal maturation are common in children with spastic quadriplegia. The purpose of this study was to provide a detailed evaluation of bone mineral density (BMD) and metabolism in this population and to assess the relationship of these measures to multiple other clinical, growth, and nutrition variables.

Study design: This was hospital based, cross sectional, case-control study.

Methods: 42 (28 males, 14 females) children with spastic quadriplegia and 42 (24 males, 18 females) healthy children were

included in the study. Bone mineral density values of patient and control subjects were measured by dual energy absorptiometry (DXA). Left hand and wrist radiographs of all patients and right hand and wrist radiographs of controls were taken, and bone ages of all radiographs were determined.

Results: In both male and female spastic quadriplegics, bone mineral density values of upper extremity, lower extremity, thoraco-lumbar spine and pelvis were lower than those of controls (p<0.0001). Bone age was lower than chronological age in 75% cases with non-severe malnutrition and in 100% cases with severe malnutrition. In stepwise regression analyses, it was found that nutritional status independently contributes to lower bone mineral density values. Physical therapy and use of anticonvulsant drugs did not correlate significantly with bone mineral density values.

Conclusions: Low BMD and delayed bone age is prevalent in children with spastic quadriplegia. The underlying pathophysiology is complex, with other multiple factors; nutritional status is the important factor contributing to the problem.

P13

ANALYSIS OF CLINICAL PROFILE, ETIOLOGICAL FACTORS AND CO-MORBIDITIES OF HEMIPLEGIC CEREBRAL PALSY IN NORTH INDIAN CHILDREN

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Objective: To evaluate the clinical profile, aetiological factors and co-morbidities of hemiplegic cerebral palsy (CP) in North Indian children

Design: Retrospective cohort study.

Method: A total of 185 children with hemiplegic CP registered over the last ten years at our rehabilitation center were reviewed.

Results: Common presenting problems were global developmental delay (89%), speech difficulties (13.5%), seizures (32%) and behavioral problems (8%). Majority of the children were males (64%), in 1-2 years age-group, first-borns (46%) and from low socio-economic status (56%). Antenatal problems were noted in 30% of mothers; commonly pregnancy-induced hypertension (12%) and antepartum hemorrhage (4%). Most of the children were born at term (88%), by institutional vaginal delivery (82%). The cause of hemiplegic CP was congenital (73%), acquired central nervous system insults (11%) or both (16%). Neonatal problems included birth asphyxia (38%), low birth weight (25%), neonatal seizures (10%), sepsis (15%) and neonatal jaundice (19%). Common co-morbidities were seizures (42%), intellectual impairment (35%), microcephaly (51%) and behavioral abnormalities (18%). Commonest seizure type was generalized (14%) followed by focal (11%), myoclonic (10%) and infantile spasms (7%), whilst no seizures were noted in 58%. Neuroimaging was done in 85% of children; common findings included diffuse cerebral atrophy (15%), infarct (15%), hypoxic-ischemic changes (12%) and brain malformations (10%), periventricular leukomalacia (6%), unilateral ventriculomegaly (3.8%) whilst normal in 19%.

Conclusion: Hemiplegic CP can be very disabling due to associated co-morbidities. Comprehensive evaluation and early management may limit the degree of disability

P14

EFFECTIVENESS OF PERIODIZATION LOADED SIT-TO-STAND STRENGTHENING EXERCISE ON WALKING ABILITY AND ENERGY EXPENDITURE IN SPASTIC DIPLEGIC CEREBRAL PALSY

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Children with CP may experience spasticity and muscle weakness. All impaired muscle functions limit the mobilization ability in a child with CP. Strength training for these children is expected to improve their mobility. Periodization is aimed to stimulate physiological and psychological adaptation (preparatory phase), to enhance the performance capabilities (competitive phase), followed by a transition phase that aims to relax and prepare for the next phase. The purpose of this study is to investigate effectiveness of a functional strengthening program with periodization for children with CP on walking ability and energy expenditure.

Methods: Twenty-two children (aged: 7-14y.o.) with spastic diplegia CP and level I-III Gross Motor Function Classification System were evenly stratified and randomly allocated into either the experimental or control group. The experimental group underwent home-based loaded-sit-to-stand strengthening exercise (3 times/week, 7 weeks). The outcome measures are walking ability (stride length, cadence, and walking speed), and Physiological Cost Index (PCI), conducted at the beginning and end of the 7-week study.

Results: After 7-week exercise, it showed changes on stride length (13,99% vs -2,46%; p:0, 006), cadence (12,27% vs -7,92%; p:0, 007), walking speed (12,65% vs -0,64%; p:0, 028), and PCI (24,23% vs -25,66%; p<0,001) between experimental group and control group.

Conclusions: After the loaded sit-to-stand exercise, children with spastic diplegia improved their walking ability (stride length, cadence, and walking speed), and decreased energy expenditure.

P15

EFFECT OF AFFECTIVE VISUAL STIMULI IN A VIRTUAL MEAL-MAKING ENVIRONMENT ON CHILDREN WITH CEREBRAL PALSY

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Introduction. The influence of environmental (affective) stimuli on emotion, task performance and participation has been insufficiently investigated for children with cerebral palsy (CP), although there is evidence that the effect is considerable. The association between heart rate variability (HRV) and cognitive/affective variables has been previously substantiated.

Objective: To harness the well-known assets of virtual reality (VR) to measure emotional aspects of performance among children with and without CP during a customized, virtual meal-making task (VMM).

Methods: Following an initial study demonstrating the VMM's usability and sensitivity, 15 children with CP and 19 typically developing peers prepared 7 meals. Except for the baseline meal, a single visual stimulus (negative, positive, or neutral from the International Affective Picture System) was displayed. Electrocardiogram and skin conductance (SCR) were recorded synchronously with affective stimuli to monitor HVR changes in time and frequency domains.

Results: All children found the VMM to be engaging but those with CP attained significantly lower performance scores. There was a significantly higher LF: HF ratio for the CP group compared to controls during meal preparation when a negative stimulus was displayed. The SCR during passive display of pictures was significantly higher for negative than positive stimuli. For children with CP, state and trait anxiety were correlated to autonomic responses and task performance. Sensory profiles for both groups significantly correlated with autonomic responses and performance.

Conclusion: The VMM has been demonstrated to be a feasible paradigm to study affective visual stimuli and autonomic responses during a functional task for children with CP.

P16

A CASE OF KOREAN INFANT WITH CLINICALLY DIAGNOSED CEREBRO-OCULO-FACIO-SKELETAL SYNDROME

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Introduction: COFS (Cerebro-Oculo-Facio-Skeletal) Syndrome, also known as Cockayne syndrome type II, a very rare autosomal recessive progressive neurodegenerative disorder, characterized by microcephaly, congenital cataracts, severe mental retardation, facial dysmorphism and arthrogryposis, first described in the early 1970s. We report a Korean infant with clinically diagnosed COFS syndrome.

Case Description: A 1-day-old male was admitted NICU with weak crying and dyspnoea. He was the first child of healthy parent. His birth history included Caesarean section due to placental abruption at 37 weeks of gestation with a weight of 2,500gm. Apgar score at 1/5min was 6/8 point. After admission, a physical examination performed and we found microcephaly, anteverted nostrils, low set ear, micrognathia, high arched palate, both simian line, clenched hand, right retinal haemorrhage, hypertonia and whole body spastic posture. There were normal results such as chromosome study, newborn tandem mass screening, Electroencephalography, abdominal ultrasound findings and ERCC6 gene mutation test. But we found corpus callosum agenesis

via brain MRI and small PDA via cardiac echography. Now, his age is 13 months but same posture as birth with a weight of 4,500gm. We clinically diagnosed COFS syndrome.

Conclusions: We report a Korean infant who have characterized the clinical symptoms of COFS syndrome from birth.

P17

CEREBRAL PALSY IN A MOTHER CHILD CHILDREN'S HOSPITAL IN LIMA, PERU

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Objective: To describe a series of patients with cerebral palsy, their characteristics and associated etiologic factors.

Materials and Methods: A review of medical records of cerebral palsy patients seen at the Child Neurology clinic at the San Bartolomé Mother and Child Hospital between July 2010 and July 2012 was carried out.

Results: A total of 24 records were reviewed. 58% were male, had a diagnosis of cerebral palsy performed before their first birthday and were first-borns. The following etiologic factors were found: Prematurity and its complications in 37.5%, birth asphyxia in equal percentage, pathologic neonatal jaundice 12.5%, post-natal meningitis, congenital rubella 4%. 92% had a perinatal central nervous system lesion. 79% had spastic quadriplegia and 83% microcephaly. 71% had and associated epilepsy syndrome of which 66% had generalized seizures and 12% refractory epilepsy. Neuroimaging was abnormal in 54%. All of these patients continue being periodically monitored at the clinic.

Conclusions: Results are similar to other series. Of note is the importance perinatal factors which were very prevalent (92%): Prematurity and its complications and birth asphyxia.

P18

CARACTERÍSTICAS DE LA ATENCIÓN DE SALUD DE NIÑOS CON PARÁLISIS CEREBRAL EVALUADOS EN LA UNIDAD DE NEUROLOGÍA PEDIÁTRICA DEL HOSPITAL NACIONAL CAYETANO HEREDIA DURANTE EL PERIODO 2011-2012

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La parálisis cerebral (PC), esunacausafrecuente de disfunciónmotoraque se acompaña de condicionescomórbidas con gran impacto en la salud del individuo y con alto costo social y económico. Éstetrabajotuvocomoobjetivodescribirlascaracterísticas de la atención de salud de los niños con PC atendidos en la Unidad de NeurologíaPediátrica el Hospital NacionalCayetano Heredia durante los años 2011-2012. De acuerdo a la metodología empleada el studio fue descriptivo y retrospectivo. La información fue extraída de las historias clínicas de niños menores de 14 años con diagnóstico de PC evaluados durante el periodo 2011-2012.

Resultados: Fueron 25 historias clínicas evaluadas, 54% correspondieron a niños menores de 5 años al momento del diagnóstico, 32% a niños mayores de 5 años al momento del diagnóstico, 63.6% fueron niños de sexo masculino. Para un 54.5% el principal motivo de consulta fue el retraso en el desarrollo y epilepsia, el tipo de PC espástico fue predominante en un 36.3% de los casos. De los niños referidos para evaluación en otros servicios, 36.3% fueron evaluados en medicina física y rehabilitación, 50% en odontología, 42% en oftalmología y audiología, 13% en nutrición, en un 10% no hubo registro de evaluación realizada en otros servicios.

Conclusiones: Las deficiencias motoras y epilepsia en pacientes con PC fueron las principales razones para la búsqueda de atención de salud en nuestro medio, Aún el abordaje multidisciplinario es incipiente en éste grupo de pacientes Éste estudio finalizará en marzo del 2014.

P19

THE BIOMECHANICAL METHODS OF THE GAIT EVALUATION IN CHILDREN WITH CEREBRAL PALSY.

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The methods of the three- dimensional gait evaluation enable the objective evaluation of the gait in children with cerebral palsy. One of the indexes used to the analysis is Gillette Gait Index (GGI); it consists of 16 clinically meaningful kinematic and three-dimensional parameters. The study was conducted with use of the three-dimensional system of gait analysis, carried by the team of pediatric neurologists, physiotherapists and engineers. The analysed group consisted of eight CP patients treated with botulin toxin intensively rehabilitated after the botulin treatment. The data were compared to ten CP patients put on rehabilitation without the botulin treatment.

The patients treated with botulin were evaluated three times: before the botulin administration, then three and then six months after it. In the other group the evaluation was conducted three months after rehabilitation start. The results of gait evaluation were compared to the gait pattern of the healthy children; the normal values were worked out by the authors.

We observed the increase of the gait speed and frequency of steps after the botulin treatment and rehabilitation; the GGI decreased both after three and six months of observation.

We do treat the results presented above as the pilot-study; the evaluation of the larger groups of children with cerebral palsy is conducted. The objective method of CP children gait evaluation may be the helpful tool for clinicians to optimize the way of CP children treatment.

P20

MY SPECIAL CASE: A RARE STORM IN PEDIATRICS

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Background: Severe episodes of generalized dystonia have rarely been reported in the literature. Status Dystonicus (SD) is a life threatening disorder requiring prompt diagnosis and intervention.

We herein describe the clinical presentation and treatment outcome of SD in pediatric patient

Case Description: A 4-year-old girl with mixed-type cerebral palsy (GMFCS V). She was the product of a breach delivery at 26 weeks gestation for a non-consanguineous marriage. At the outset, she displayed abnormally painful stretching of her legs which promptly spread to all other limbs

A combination of Baclofen and a titrated Benzahexole was used but worsening of her episodes necessitated admission. Midazolam and Diazepam tried with partial response. Added Chloral Hydrate had no effect.

A brain MRI, Sepsis Screen, Electrolyte, Barium test and gastroscopy were requested. Result revealed a severe gastric reflux, growth of ***H. Pylori and a normal scan.***

Use of anti-reflux and antibiotics brought significant improvement and patient remained clinically stable on maintenance medication.

Discussion: SD first recognized by Jankovic and Penn in 1982. Patients may develop serious metabolic, renal and respiratory complications.

Our case has proved challenging to treat. We were interested in the growth of H. Pylori and its related symptoms as the main triggers in our patient and how common these will be in others with a similar diagnosis.

Implication: Pediatricians should be aware of the condition so that it is recognized and treated early. It is a rare condition and to date, no definite data exists about the optimal treatment strategy.

P21

DIAGNOSTIC VALUE OF BRAIN STEM AUDITORY EVOKED POTENTIALS IN CHILDREN

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Introduction: Involvement of the neural auditory pathway in various childhood neurological conditions has not so far been properly studied. Brain stem auditory evoked response (BSAER) is a complex neurophysiology test which is used to find abnormalities and functionally localize them within the neural auditory pathway from cochlea to brain stem.

Objective: BSAER was done in children with various chronic neurological presentations aiming at identifying the BSAER abnormality and to characterize the pattern of abnormality to the final complete neurological diagnosis.

Method: We followed up 73 children who came for BSAER. BSAER abnormalities were categorized into retro-cochlear, peripheral or brainstem pathology. Broad final neurological diagnoses observed were cerebral palsy, genetic syndromes, neurodegenerative disease, CNS infections and cerebral tumours.

Results: Abnormal BSAER was found in 58%. Further localization was possible in 21% as peripheral, 10% as retrocochlear and 4% as brain stem pathology.

The findings reveal that children with some chronic neurological diseases have fairly persistent and distinct BSAER abnormalities {cerebral palsy (70%), Genetic syndromes (78%) and cerebral tumors (67%)}.

Conclusion: BSAER is an important investigation to define functional auditory integrity in various childhood neurological diseases.

BSAER abnormality is common (58%) in children with various chronic neurological problems.

We propose to undertake a bigger study with the aim to characterize different BSAER patterns in different aetiologies and thus to obtain diagnostic validity for this mode of investigation to be able to use it, particularly in a resource poor setting where diagnostic neuroimaging is not easily available.

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A VASCULAR ANOMALY PRESENTING WITH TOE WALKING

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Background: Congenital vascular malformations are uncommon and often asymptomatic. (1) Venous malformations are by far the commonest and can be localized or diffuse. (1) Idiopathic toe walking (ITW) is commonly reported in up to 12% of healthy children. (2) It is diagnosed after exclusion of central, neuromuscular, developmental and orthopaedic aetiologies.

Case Report: 13-year-old was referred because of toe walking and increasing muscle cramps more marked on the right side. This was first noticed on the right side when she was 3 years old. Subsequently, this had become bilateral but was still more noticeable on the right. A presumptive diagnosis of ITW was made. She underwent several stretching exercises and serial castings but without benefit. There was no significant birth, developmental, past or family histories. On gait examination, she had a persistent right-sided forefoot contact on the stance phase. She had a prominent right calf with enlargement of the lateral gastrocnemius muscle. She had a fixed right ankle dorsiflexion at about 10 degrees. The rest of the examination was unremarkable. Ultrasound scanning demonstrated a diffuse echogenic mass over the lateral aspect of the right calf. MRI revealed multiple cystic and tubular lesions infiltrating the posterior and lateral muscle group of the right calf with surrounding intervening fatty change and soft tissue oedema. This was in keeping with an extensive venous anomaly.

Discussion: his vascular lesion had probably caused necrosis and fibrosis thus shortening the right gastroc-soleus complex. Vascular malformations should be included in the differential diagnosis of asymmetric toe walking.

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CONCERNS AND FELT NEEDS OF PARENTS OF DISABLED CHILDREN LIVING IN URBAN SLUMS

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Introduction: Parents are pivotal in rehabilitation of their disabled children. Understanding their concerns and needs is important for planning of rehabilitation programs.

Objective: To elicit the concerns and felt needs of parents of disabled children living in urban slums.

Methods: Camps were organized in urban slums, disabled children were examined, and identified families were studied. Home visits were made to 30 families with physically disabled (PD group) and 30 with mentally deficient children (MD group). Parents were interviewed using a pre-structured questionnaire. The effect of disability on the family, and knowledge, attitude, coping patterns and felt needs of parents were studied after obtaining consent. Descriptive statistics and Chi-square test were used for data analysis.

Results: The two groups were comparable in socio-demographic characteristics. The mean age of children was 8.7 and 7.3 years in PD and MD groups respectively. All parents reported increased stress particularly financial (60%), disruption of family routine (50%) and decrease in social interaction (52%). Marital conflicts were more in MD group. Only 30% of parents knew the cause of their child's disability, 64% thought it was their fate. Only 22 children went to school; 78% mothers were concerned about their child's future, 36% wanted free services and 46% wanted rehabilitation centers nearby; 60% reported inadequate family support; 50% mothers in MD group in contrast to 10% in PD group felt that they were blamed for the birth of a disabled child.

Conclusion: Proper counselling of parents is essential. Home-based management is required in resource poor conditions.

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A PROSPECTIVE ANALYTICAL STUDY ON CLINICAL AND NEURORADIOLOGICAL PROFILE OF TERM AND PRETERM CHILDREN WITH SPASTIC DIPLEGIA.

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Aim: To compare the clinical and radiological profile of term and preterm children with spastic diplegia.

Methods: Children aged 1 -14 years with spastic diplegia being followed up at our rehabilitation center from 2009 -2013 were evaluated. Antecedent antenatal and neonatal risk factors, clinical features and radiological findings were compared between term (> 37 weeks) and preterm born (< 37 weeks) children. Neuroimaging findings were categorized (9 categories) and periventricular white matter injury (PVWMI), when present was further scored. Univariate and binomial logistical regression analyses were done to identify factors that correlate with PVWMI in term and preterm children.

Results: Of 110 children evaluated, 96 met the inclusion criteria, 3 were excluded and 93 analyzed. Eighty nine children had magnetic resonance imaging (MRI) of brain done. There were 45/93 (48%) term born children. Periventricular white matter injury (PVWMI) was seen in 64 % of term and 89.4% of preterm children; Perirolandic injury in 16.6% of term and 4.2% of preterm children and malformations in 7.1% of term and none in preterm children. MRI brain was normal in 9.5% of term children but none in preterm group. An eventful antenatal or neonatal period and NICU admission > 5 days predicted PVWMI in term children with spastic diplegia. In contrast to preterm children with PVWMI, term PVWMI was significantly associated with perinatal asphyxia, moderate to severe intellectual disability and epilepsy.

Conclusion: Spastic diplegia and PVWMI is not restricted to preterm birth. Infact, term and preterm children with spastic diplegia represent two distinct clinicopathogenic entities.