

NEUROREHABILITATION

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QUALITY OF LIFE IN CHILDREN WITH DUCHENNE MUSCULAR DYSTROPHY

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Introduction: Evaluate the perception of quality of life (QL) in children with Duchenne muscular dystrophy (DMD) and compare with age related children without dystrophy.

Methods: We investigated four male children between 9 and 15 years with DMD. For control group we considered four subjects of the same sex, age and body mass index (BMI). The QL was assessed using the instrument AUQEI -*AutoquestionnaireQualité de Vie Enfant Imagé*. The questionnaire is based on the perspective of the child's satisfaction, consisting of 26 questions that explore family relationships, social activities, health, bodily functions and divorce. In the statistical analysis we used the Kolmogorov-Smirnov test and paired t test, with significance level of 5%.

Results: In children with DMD mean total score of QL was 53.0 points (± 7.65), cut-off point 48, with 75% positive and 25% with impaired QL. In the control group, the mean total score of QL was 55.0 points (± 2.45), cut-off point 48, therefore all children with positive QL. The perceived QL of children with and without DMD was not significant in both the total score and for the domains ($p > .05$).

Conclusion / Discussion: The findings show that the QL of all children were considered positive and only a child with DMD was considered impaired. This study is ongoing, seeking increase of the sample and investigation.

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QUALITY OF LIFE IN CHILDREN FROM A PUBLIC SCHOOL

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Introduction: In recent decades, interest in research involving quality of life (QL) has progressed substantially, however, in children is still scarce.

Objective: To evaluate the perception of quality of life in children from a public school.

Method: Cross-sectional and descriptive study in children from a public school. Work approved by the Ethics Committee. We investigated 153 children between six and 13 years (mean 8.4 ± 1.5 years), from May to August 2013. The evaluation consisted personal, lifestyle habits, anthropometry (weight, height and BMI) and QL assessment by AUQEI (Autoquestionnaire Qualité de Vie Enfant Imagé).

Results: Among the 153 children studied, 43.8% were male and 56.2% female. Predominant age were seven (34.64%) and nine years (24.18%). Most children enrolled in 2nd (37.91%) and 5th years grade (24.18%). We observed 72.55% and 27.45% normal children overweight (16.34% overweight and 11.11% obese). The mean total score of QL was 50.78 ± 6.06 points, considering cut-off 48, 73.86% of children with positive QL and 26.14% lower QL. The recreation domain showed the highest and autonomy the lower perception of QL.

Conclusions: The findings of the study show that the QL of children was regarded as the most positive and best entertainment. This study presents ongoing seeking to expand the sample and highlights the importance of further research with QV to deepen this discussion in different age groups.

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CARDIOVASCULAR RISKS AND LEVEL OF PHYSICAL ACTIVITY IN CHILDREN IN FROM A PUBLIC SCHOOL

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Introduction: Cardiovascular diseases have been associated with several risk factors. The aim of this study was to identify the cardiovascular risks and level of physical activity in children from a public school.

Methods: Cross-sectional and descriptive in children and approved by the Ethics Committee. We investigated 153 children between six and 13 years (mean 8.4 ± 1.5 years), from May to August 2013. Rating: personal data, vital signs, physical examination (blood pressure), anthropometry (weight, height and BMI) and International Physical Activity Questionnaire (IPAQ) short version.

Results: Among the 153 children studied, there was 43.8% male and 56.2% female, most of the 2nd grade year (37.91%) followed by 5th grade (24.18%). Regarding BMI was observed that 27.45% had overweight (16.34% overweight and 11.11% obese). It has been observed average systolic BP 90.53 mmHg (± 11.12) and mean diastolic BP 54.04 mmHg (± 10.27). Regarding the IPAQ, observed most of 94 children, 62% are classified as insufficiently active, followed by 23% active and 15% are very active.

Conclusions: The findings of this study showed that most of the children were considered insufficiently active and there was a high prevalence of overweight and obesity. Regarding the values of BP, most are normal. These findings highlight the need to adopt preventive care, aiming enhance healthy eating habits with regular practice of physical activity, in an attempt to minimize the incidence of overweight and obesity in children.

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RESPIRATORY MUSCLE TRAINING IN PATIENTS WITH DUCHENNE MUSCULAR DYSTROPHY: CLINICAL TRIAL WITH ONE GROUP

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Introduction: Weakness of the respiratory muscles is a major cause for respiratory failure in Duchenne muscular dystrophy (DMD).

Objective: To evaluate effects of inspiratory muscle training on respiratory muscle strength in patients with DMD.

Method: Clinical trial with one group with five patients (DMD), aged 11.4 ± 2.6 years, assessed by manovacuometry (MIP and MEP) and Peak Flow (PEF) in three stages: initial (baseline), five and ten session. Inspiratory muscle training, with 30% of MIP in linear load device (*Threshold*®), five sets of 10 repetitions, totalling 10 sessions, three times a week. This work was approved by the ethics committee and the results were analyzed by Friedman test and Dunn test and calculation of effect size (r) of Cohen.

Results: Mean initial, fifth and 10th session, respectively: MIP (cmH_2O) -64, -69.8 and -86.8; MEP (cmH_2O) 64, 67 and 73.6 and PEF (L/min) 210, 218 and 232. Friedman test significant: MIP ($p=0.006$), MEP ($p=0.003$) and PEF ($p=0.012$). Dunn test: MIP: initial = 5sessions < 10sessions ($p=0.527$, $p=0.040$, $p=0.007$), a 29% improvement in initial sessions to 10th with effect size $r=0.85$ (major), explaining 72% of the total variance. MEP: Initial \leq 5sessions \leq 10 sessions ($p=0.343$, $p=0.058$, $p=0.004$), 25% improvement for initial to 10th session and effect size $r=0.90$ (large) explaining 81% of the total variance. PEF: Initial=5 sessions<10 sessions ($p=0.752$, $p=0.027$, $p=0.011$); improvement of 9% from initial to 10 sessions and effect size $r=0.80$ (major) explaining 64% of the total variance.

Conclusion: Training proposed was effective in gaining respiratory strength in 10 sessions. Because the progression of DMD suggest permanent treatment aimed at maintaining and improving muscle strength.

P219-1

EFFECTS OF MUSICAL LITERACY ACQUISITION ON CHILDREN WITH HEMIPLEGIC CEREBRAL PALSY: IS IT POSSIBLE TO IMPROVE THE COGNITION?

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Introduction: Instrumental training (IT) is a multisensory motor experience, which requires many skills, including reading a complex symbolic system and translating into sequential, bimanual motor activity dependent on multisensory feedback; developing fine motor and cognitive abilities in typical children.

Methods: Fourteen children with hemiplegic cerebral palsy (HCP) were invited to participate in a musical program with 60-minute musical literacy group lesson and 60-minute individual piano lesson once a week for 40 weeks. Each child had a keyboard of 30-minute daily training home. Wechsler Intelligence Scale for Children (WISC-IV) and Child Behavior Checklist (CBCL) were used pre and post intervention. Wilcoxon test and Spearman coefficient were used on statistical analysis, considering $p < 0.05$.

Results: Six males were the ones that concluded study acquiring musical literacy. The others 8 gave up the program. Mean age was 10.3 ± 1.5 years-old (7.6 to 12.2). Better was seen on picture concepts, coding, comprehension, symbol search, picture completion, information, arithmetic, word reasoning, perceptual reasoning, processing speed and full scale on WISC IV (Table 1). It was not observed changes on CBCL.

Conclusion/Discussion: A longitudinal study of the effects of music training on cognition in HCP showed improvement in verbal comprehension, perceptual reasoning and processing speed. We can't demonstrate better participation using CBCL. IT is a pleased activity, of low cost and effective. The largest difficulties found were to stimulate more children in study participation, because of the families' low income/education and the understanding of the IT impact on child's functionality and social participation.

P219-2

LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: FORESEEING BETTER PARTICIPATION IN LIFE SITUATIONS

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Introduction: Children with hemiplegic cerebral palsy (HCP) were submitted an expensive and long time treatment, including botulinum neurotoxin type A (BoNT-A), with goal of better function, independence and participation in life situations.

Methods: Cross-sectional study in HCP cohort treated with BoNT-A. Data collected from charts and clinical evaluations. The Gross Motor Function Classification System Expanded and Revised (GMFCS-ER), Manual Ability Classification System (MACS) and Communication Function Classification System (CFCS) were used as classification tools. Dimension E of the Gross Motor Function Measure (GMFM-E) was used as functional measure and Child Behavior Checklist (CBCL) as participation in life situations. All statistical tests considered $p < 0.05$.

Results: Sixty-six patients concluded all evaluations. Patients classified as level I on GMFCS-ER were classified as normal in Academic and Activities scales on CBCL more frequently. Level I on MACS was frequently classified as normal in Academic scale on CBCL. Level I on CFCS was classified as normal in Academic scale on CBCL more frequently. Patients with higher means in dimension E of GMFM were classified as normal in Activities, Social and Academic scale on CBCL; and had higher scores in Total Competences and lower in social problems on CBCL.

Conclusion/Discussion: Level I in all classification tools is factor of good prognosis of participation in life situations, however higher means in GMFM-E is the best tool to foresee participation.

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LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: SOCIAL INTERFERENCES

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Introduction: Social factors are very important to good outcome in chronic disease.

Methods: Cross-sectional study evaluated clinical measures among hemiplegic cerebral palsy (HCP) patients treated with BoNT-A. Data

were from charts and by actual evaluation. All patients had encephalic magnetic resonance image (EMRI). Statistical analyses were significant at $p < 0.05$.

Results: Sixty-six patients with mean age of 135 ± 55.79 months (57 to 268) were evaluated. Mean per capita income was R\$ 567,56 \pm 717.72, with 71% below the mean. Complete and incomplete basic levels predominate in parent's education. Twenty five families received full disability pension (FDP), while in 15 was the unique income. Team home orientations were not following in 17 (low adherence). Patients from FDP families and low adherence had current higher spasticity, smaller tone reduction during follow-up and worse current PRS. Children from families without FDP had better cognition and total WeeFIM scores. Those that frequent regular school had better self-care, communication, cognition and total WeeFIM. Children from mothers with higher education level had better communication WeeFIM. Most of families had two or three offspring. Third or more offspring children had less spasticity reduction. Children which EMRI showed Periventricular Atrophy (PA) and fathers with college had current lower upper extremity spasticity, better UPRS and distal upper extremity muscle strength than which fathers with basic education. Children with PA and mothers with college had better lower extremity muscle strength.

Conclusion/Discussion: Children from low income families, especially those that the third or more place in the offspring, had worst response to BoNT-A treatment.

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LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: COGNITIVE IMPACT IN OUTCOME REHABILITATION

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Introduction: Cerebral palsy treatment is complex and spends time and resources. Motor learning depends of repeated training and preserved cognition.

Methods: Cross-sectional study in cohort of hemiplegic cerebral palsy (HCP) treated with botulinum neurotoxin type A (BoNT-A). Data collected from charts and clinical evaluations. Statistical tests considered $p < 0.05$.

Results: Sixty-six patients concluded all evaluations. Higher performance, verbal and total IQ had positive correlation with paternal education and the two last also with maternal. Normal sensory tests, especially two-point, presented relation with better performance, verbal and total IQ. Children with better verbal IQ were classified more frequently as level I on CFCS; as well as those with better performance IQ as level I on MACS and more frequently had GMFM-E $> 95\%$. Patients with better verbal IQ had larger spasticity reduction and better currents Mini-Mental, MVHT, muscle strength, SCALE, SCAUE, arm and hand Brunnstrom, PRS and UPRS. Children with better performance IQ had lower spasticity and better currents MVHT, muscle strength, SCALE, SCAUE, arm and hand Brunnstrom and UPRS. Patients with better Performance IQ had better total WeeFIM. Total IQ had positive correlation with currents Mini-Mental, MVHT, muscle strength, SCALE, SCAUE, arm and hand Brunnstrom, PRS and UPRS. They also had larger spasticity reduction.

Conclusion/Discussion: Better cognition is a main factor in HCP children outcome rehabilitation with better follow-up in motor functions, mainly hand activities and gait. Children with higher verbal and total IQ had larger spasticity reduction, being best responders to BoNT-A treatment.

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LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: BEST FUNCTIONAL RESPONDERS

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Introduction: Cerebral palsy treatment is complex and spends time and resources, so find best responders is challenging.

Methods: Cross-sectional study in cohort of hemiplegic cerebral palsy (HCP) treated with BoNT-A. Data obtained from charts and clinical evaluations. All statistical tests considered $p < 0.05$.

Results: Sixty-six patients concluded all evaluations. Level I GMFCS-ER was related with younger age of gait acquisition, higher child education (CE) and better lower extremity muscle strength. Level I MACS was related with higher CE, better initial UPRS and currents Mini-Mental, muscle strength, MVHT, SCAUE, PRS and UPRS. They also had the lower muscle strength reduction during follow-up. Patients with pre natal insult and those with microcephaly, sensory alteration and spatial hemineglect were level II on GMFCS-ER and MACS. Level I CFCS was in regular school and from Curitiba and Metropolitan area. Those with microcephaly were level III and IV CFCS. Level I CFCS was related with higher CE, head circumference, better currents Mini-Mental, MVHT and SCAUE. Levels I and II CFCS had gain on UPRS, while III and IV lost. Patients with pre natal insult and astereognosis had worse GMFM-E. GMFM-E>95% patients had younger sit and gait acquisition age, higher CE, better initial UPRS and higher currents head circumference, Mini-Mental, muscle strength, MVHT, SCAUE, hand Brunnstrom, PRS, GMFCS-ER, MACS, CFCS and WeeFIM. There was positive correlation among PRS gain and better FMS levels.

Conclusion/Discussion: Children with better initial UPRS, current Mini-Mental and education were bet responders. Patients with pre natal insult and microcephaly had worst results.

P219-6

LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: FACTORS OF PARTICIPATION IN LIFE SITUATIONS

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Introduction: Participation in life situations is an important goal in children with hemiplegic cerebral palsy (HCP), which were submitted a multiple interventions, including botulinum neurotoxin type A (BoNT-A).

Methods: Cross-sectional study in HCP cohort treated with BoNT-A. Data obtained from charts and clinical evaluations. Child Behavior Checklist (CBCL) was used as participation in life situations. All statistical tests considered $p < 0.05$.

Results: Sixty-six patients concluded all evaluations. Patients classified as normal in Activities scale on CBCL had younger seat acquisition and better Mini-Mental, self-care, communication, cognition and total WeeFIM scores and verbal and total IQ. Patients with perinatal insult were predominantly classified as normal in Activities CBCL. Children from families without full disability pension, more educated mothers and who lived in Curitiba were normal in Activities CBCL. Patients with varo foot were worse in Activities CBCL. Patients classified as normal in Social CBCL had early gait acquisition. Patients normal in Academic CBCL had better education, adherence and current Mini-Mental, muscle strength, hand movement velocity tasks, PRS, arm Brunnstrom, SCAUE, SCAUE, self-care, communication, cognition and total WeeFIM and verbal and total IQ. Those classified as normal in Total Competences CBCL had better scores in initial PRS and UPRS; and better current Mini-Mental, SCAUE and self-care, communication, cognition and total WeeFIM scores. Second offspring children had better Total Competences on CBCL.

Conclusion/Discussion: HCP with better function and independence had more participation in life situations. Low income, mother education, third or more offspring, pre natal insult and varo foot were factors of unfavorable prognosis.

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LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: EPILEPSY IMPACT

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Introduction: The major treatment goal for cerebral palsy children is to provide independence, mainly in those treated with botulinum neurotoxin type A (BoNT-A). Comorbidities, as epilepsy, are common and cause negative impact on treatment results.

Methods: Cross-sectional study evaluated clinical measures, quality of life (PODCI) and biopsychosocial profile (CBCL) among a cohort of patients with hemiplegic cerebral palsy (HCP) treated with BoNT-A. Data were collected from charts and by current evaluations. All patients had encephalic magnetic resonance image (EMRI) and Wechsler Intelligence

Scale for Children (WISC-III). Fisher test, Chi-square, Mann-Whitney, ANOVA, Kruskal-Wallis and Spearman coefficient were used and all analyses used a significance level of $p < 0.05$.

Results: Sixty-six patients were included with mean age of 135 ± 55.79 months (57 to 268). Epilepsy was present in 44%. Eleven patients (16.7%) had their EMRI classified as Maldevelopment (MD), 24 (36.4%) Periventricular Atrophy, 22 (36.4%) Cortical/Subcortical Atrophy (CSA), 3 (4.5%) Miscellany and six (9.1%) as Normal. CSA patients had epilepsy more frequently and presented tendency to statistical significance of worse distal upper extremity muscle strength. Patients with epilepsy and MD had lower scores in self-care, sphincters control, communication and total on WeeFIM and in pain and comfort dimension and global function and symptoms on PODCI.

Conclusion/Discussion: Epilepsy interferes on treatment results in a cohort of HCP treated with BoNT-A, mainly in patients with EMRI showing MD. This group presents worst functional independence and quality of life.

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LONG TERM FOLLOW-UP OF HEMIPLEGIC CEREBRAL PALSY TREATED WITH BOTULINUM TOXIN TYPE A: NEUROIMAGE INFLUENCE

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Introduction: The major treatment goal for cerebral palsy children is to provide independence mainly in those treated with botulinum neurotoxin type A (BoNT-A).

Methods: Cross-sectional study evaluated clinical measures, quality of life and biopsychosocial profile (CBCL) among patients with hemiplegic cerebral palsy (HCP) treated with BoNT-A in a cohort study. Data were obtained from charts and by actual evaluation. All patients had encephalic magnetic resonance image (EMRI) and Wechsler Intelligence Scale for Children (WISC-III). Fisher test, Chi-square, Mann-Whitney, ANOVA, Kruskal-Wallis and Spearman coefficient were used and all analyses used a significance level of $p < 0.05$.

Results: Ninety-nine patients were consecutively enrolled and sixty-six concluded all evaluations. Mean age was 135 ± 55.79 months (57 to 268). Male predominates (60%). Mean age of follow up beginning was 52.1 ± 42.7 months (4 to 188). Fifty-one (77.3%) were level I on GMFCS-ER and remaining level II. Eleven patients (16.7%) had their EMRI showing Maldevelopment (MD), 24 (36.4%) Periventricular Atrophy, 22 (36.4%) Cortical/Subcortical Atrophy (CSA), 3 (4.5%) Miscellany and six (9.1%) were Normal. CSA patients had epilepsy more frequently and were submitted more times to BoNT-A; also had worst results in upper extremity evaluations, more sensory alterations and worst scores in social and affective problems on CBCL. MD patients had worst results in dimension E on GMFM and in self-care, sphincters control, cognition and total WeeFIM scores.

Results/Discussion: Neuroimage is an important prognostic tool in HCP children, being CSA worst to upper extremity and MD to gross motor function and functional independence.

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HOW TO EFFECTIVELY EVALUATE THE OUTCOME OF NEUROCOGNITIVE REHABILITATION IN CHILDREN WITH NEUROLOGICAL DISORDERS?

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Introduction: Attention impairment is commonly accompanying traumatic brain injury (TBI) and partial epilepsy (PE). Still, few systematically controlled neurocognitive rehabilitation techniques for children exist. Furthermore, evaluation of training effectiveness is insufficient. The aim of the study is to compare objective and subjective outcome assessments of computer-based attention dysfunction rehabilitation.

Methods: 8 children (mean age 11.14 yrs; SD=0.90) with PE or mild TBI received individual supervised computer-based attention functions

training using FORAMENRehab software (Sarajuuri et al., 2000), adapted for children by authors. Trainings occurred twice a week during 5-week-period following strict protocol. Intervention addressed four aspects of attention – sustaining, focusing, complex attention and tracking. For objective outcome evaluation children performed baseline tasks before and after the intervention. Subjective outcome was evaluated by parents' ratings.

Results: Objective effect of rehabilitation was remarkable. Wilcoxon signed-rank test confirmed improvement in sustained attention (faster solving, $Z=-2.366$, $Mr1=4.00$, $Mr2=0.00$, $p=0.018$) and complex attention (increased correct responses, $Z=-2.201$, $Mr1=0.00$, $Mr2=3.5$, $p=0.028$ and decreased mistakes, $Z=-1.992$, $Mr1=4.00$, $Mr2=1.00$, $p=0.046$). Subjective evaluation of training effect showed positive behavioral change: children were more tranquil, diligent and less distracted. Reading, writing, mathematics, socialization and visuomotor skills improved. Besides, parents recommended the intervention to other patients.

Conclusions: Our multifaceted neurorehabilitation design with FORAMENRehab is effective for children with PE or mTBI. Intervention effectiveness is best confirmed in combination of objective testing and subjective evaluations. Intervention combines principles of holistic rehabilitation, modern computer-assisted neurocognitive rehabilitation and individual approach. Baseline assessment tasks could also be used as a diagnostic tool for describing attention dysfunctions.

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COMPARISON OF THE DENVER AND TIMP TESTS IN INFANTS WITH CYTOMEGALOVIRUS INFECTION

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Objective: Infection with human cytomegalovirus (HCMV) is the most frequent congenital viral infection. Central nervous system involvement and damage is especially intensive in early primary infection. Infants with cytomegalovirus infection are especially at risk of cerebral palsy, so early rehabilitation intervention is crucial. Only a few diagnostic tests are available for evaluation of the psychomotor development in very young infants. The comparison of the two commonly used diagnostic tests was performed.

Material and methods: In 24 infants (9 premature) with congenital cytomegalovirus infection at the age 2 to 4 months estimation of the motor performance's level were done using Denver test and The Test of Infant Motor Performance (TIMP). Clinical signs of HCMV infection, serological and HCMV DNA results and birth weight, mode of delivery as well as neuroimaging results were analyzed. TIMP examination was performed in two parts- in supination position and then with using 23 specific tests.

Results: Comparison of the results from Denver and TIMP tests revealed high coherence (0.65 , $p=0.05$). Factors concerning clinical and laboratory symptoms and signs of cytomegalovirus infection and perinatal factors have no influence on Denver and TIMP tests results. Good results in Denver test guarantees also good result in TIMP tests.

Conclusions: Denver test could be effective screening method before using the TIMP test. In case of bad results in Denver test, this test cannot be used as a final diagnostic tool in therapeutic process and the TIMP test assessment should be obligatory.

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GENERAL MOVEMENTS QUALITY IN PRETERM INFANTS- CORRELATION WITH INTRAVENTRICULAR HEMORRHAGE

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Objective: General movements (GMs) are part of spontaneous activity generated by the central nervous system. Abnormal general movements indicate impairment of the central nervous system. The aim of the study was to assess the quality of general movements in preterm infants and to estimate correlation between intraventricular hemorrhages (IVH) and quality of general movements.

Material and methods: Video recordings of the 22 preterm (7 females, 15 males) born between 24th and 35th week of gestation were performed according to Prechtl method and analyzed by 3 independent people. Video recordings were repeated at least 2 times with 2 weeks interval.

Results: Most frequently (40 /57 -70.2%) poor repertoire (PR) movements were observed. In 5 infants also with cramped-synchronized (CS) movements. Hypokinetic movements were rare (3.5%). Only 10/57 first recordings were normal. All (10) infants with IVH have abnormal PR movements pattern and without later improvement. In 8% of infants with IVH GMs even made worse. In preterm infants with normal ultrasound, GMs pattern improved. The differences between preterm infants with IVH and without IVH are statistically significant ($p=0.01$), but the grade of IVH, as well as the gestational age are not significant ($p>0.05$) for general movements quality.

Conclusions: IVH in preterm infants was found to correlate with abnormal general movements. During the first weeks of life in preterm newborns with IVH poor repertoire of general movements occur frequently. Repeated estimation of the early GMs in preterm infants may be a good prognostic factor for abnormal psychomotor development.

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INTRATHECAL BACLOFEN PUMP: KSA EXPERIENCE

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Abstract: Increasingly, spasticity is managed with surgically implanted Intrathecal Baclofen pumps. Intrathecal Baclofen pump revision surgery unrelated to programmable pump end-of-life is not uncommon, requiring special attention during pre-, intra-, and post-operative management. We aimed to identify and describe complications of Intrathecal Baclofen pump as well as to report avoidance and management of complications.

Methods and Materials: Through 2007- 2010, at the department of neurosurgery, King Fahad Medical City, Intrathecal Baclofen pumps were implanted in 43 patients; 21 children versus 22 adults; 14 revision surgeries were performed in 10 patients. We evaluated reasons for revision surgeries and diagnostic work-up requirements.

Results: Ten out of 43 primary-implant-patients required 14 revisions; 8 patients had only 1 revision procedure while 2 patients had multiple revision procedures. Complications ranged between: Implant infections in 8 cases; 1 paternal cause, 3 post dehiscence, 1 post rejection, 1 post trauma, 1 post hematoma and 1 pure infection. CSF leakage in one case.

Conclusions: Intrathecal Baclofen pumps, although very gratifying, have a high, technique-related complication incidence during implant life. Meticulous technique, high clinical suspicion, appropriate work-up, and timely surgical management can reduce surgical complications of Intrathecal Baclofen pump implantation.