had two such cases with multi-system involvement in the form of an atypical Kawasaki - like presentation, similar to previous Indian reports [7].

In a recent meta-analysis, Meena, *et al*. [8] analyzed data from 27 different studies (4857 patients). They showed that even among the symptomatic COVID-19 cases, severe manifestations are fewer in children. They found that fever and respiratory symptoms are most common, although many children had gastrointestinal manifestations [8].

The study has its share of limitations of small sample size and lack of long term follow up of co-morbidities after discharge. In spite of these shortcomings, this study provides preliminary data on characteristics and outcomes of COVID-19 in children from India.

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Effect of Robot-Assisted Gait Training on Selective Voluntary Motor Control in Ambulatory Children with Cerebral Palsy

This pilot study investigated the efficacy of a four week robot-assisted gait training in twelve children with spastic diparesis. Short-term results and a 3-month follow-up showed statistically significantly increased selective motor control, walking farther distances, gross motor score, and decreased joint contractures.

Keywords: *Cerebral palsy, Gait, Joint range of motion, Lokomat, Motor control*,

Cerebral palsy affects movement and posture, resulting in a limited activity that is attributed to non-progressive disturbances occurring in the fetal or infant brain [1]. Since robot-assisted gait training (RAGT) induces changes in the brain plasticity, it appears promising in improving gross motor control of CP children with cerebral palsy [2-4].It could be hypothesized that RAGT can affect impaired selective voluntary motor control (SVMC), which is the inability to activate muscles to achieve a voluntary posture or movement [5]. Therefore, this pilot study investigated the efficacy of RAGT as monotherapy on lower limb SVMC, joint range of motion (ROM), walking ability, and gross motor measures.

The study received ethics committee approval from participating institutions. All parents and children provided written informed consent for participation. Twelve children [mean (SD) age, 10.9 (3.3) year; 2 girls] were tested at the baseline, after four weeks of intervention, and at 3-month follow-up. Children with spastic diparesis with toe-walking and/or scissoring patterns aged between 5-17 years were recruited. Only children who could attend the 4-week RAGT program regularly were enrolled. Children were excluded if

they had used any muscle relaxants within the previous 6 months or had orthopedic surgery within the last year [2-4].

Standardized, validated questionnaires and evaluations [5-8] were used: goniometry, Selective Control Assessment of Lower Limbs Evaluation (SCALE), D and E parts of Gross Motor Function Measurement (GMFM), 10-meter walk test (10MWT) and 6-minute walk test (6MWT). During walking tests, all children wore footwear and orthoses, if regularly used. For SCALE, children performed isolated movements of the hip, knee, ankle, subtalar, and toe joints. Scores were assigned as: normal - joints moved selectively within at least 50% of the possible ROM, and at a physiological cadence; impaired - movement performed slower below 50% of ROM, with mirror and/or synergistic movements; or unable - no joint movement performed or synergy patterns present. Pre-post intervention goniometry and SCALE evaluations showed bilateral asymmetries in lower limbs across all children. Asymmetries were recorded as 'more impaired limb (MIL)' and 'less impaired limb (LIL)'.

The Lokomat Pro device (Hocoma AG, Volketswil, Switzerland) was used [9]. Children attended 20 sessions scheduled on 20 consecutive working days. Therapy ranged 30-45 minutes and progressively increased by at least 3 minutes every other day [mean (SD), 39 (6) minute]. Walking speed [mean (SD), 1.4 (2.38) km/h] was set individually. The walking distance [mean (SD), 969 (172) meter] was gradually increased every other day by at least 50 meters. All children had an initial level of 50% body-weight support [mean (SD), 14.8 (4.76) kg], which was gradually decreased every other day for each child until the knee did not start to collapse into flexion during the stance phase.

Data were analyzed in MatLab (Mathworks Inc., USA). Shapiro-Wilk test (0.05 significance level) showed abnormal data distribution. The Wilcoxon sign rank test was used for the LIL and MIL, separately [10]. Spearman correlations were calculated for the following: goniometry/SCALE, GMFM D, E/10MWT, and GMFM D, E/6MWT.

Hip joint flexion contractures decreased bilaterally by 10° (P=0.004). Internal hip rotations decreased by 10° in LIL and 15° in MIL (P=0.002). Ankle dorsiflexion improved bilaterally by 10° (P=0.001). SCALE scores increased by 1.5 in LIL and 2.5 points in MIL (P=0.001). The 6MWT walking distance increased by 75 meters (P=0.001). 10MWT showed no significant change (P=0.89). GMFM-D improved by 8% (P<0.001) and GMFM-E by 6% (P=0.002). Correlations were found only between GMFM D, E scores and walking tests (rho=-0.614-0.784;P<0.05). Increased GMFM scores correlated with decreased time in 10MWT, and increased walking distance in 6MWT. There was no significant difference in short-term and 3-month follow-up data (P>0.05) across all measures.

Since active training seems to be more effective than passive training for motor learning and cortical reorganization in central motor impairments [2-4,9], RAGT likely improved motor control of CP children due to active training performed with a high-repetition-rate of guided movements in the most neutral pelvis and lower limbs position. To the best of our knowledge, this is the first study suggesting that RAGT improves SVMC and decreases hip joint internal rotation contractures. We support the previous results that CP children increased walking distance following RAGT [2-4]. It has been shown that the combination of RAGT and physiotherapy improves GMFM D,E scores [2-4].

Our outcomes suggest that although expensive (~300,000 Euro), RAGT, which is primarily used in rehabilitation centers, can improve D, E scores even when used as a stand-alone therapy. Although this study provides a foundation on which future studies can be built on, RAGT should be investigated over longer periods in different populations to further determine its effectiveness.

Ethical Approval: (*i*) Charles University, Prague, the Czech Republic (number 120/2015) dated August 12, 2015, and (*ii*) University Rehabilitation Institute, Ljubljana, the Republic of Slovenia on October 5, 2015.

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Pediatric Papilledema at a Tertiary Care Ophthalmological Center

Pediatric papilledema is usually asymptomatic and is diagnosed on routine screening. We conducted a retrospective study to evaluate pediatric papilledema with respect to presentation, etiology and treatment at the neuroophthalmology clinic of a tertiary care eye institute.19 of the 24 children studied had Idiopathic intracranial hypertension.This study stresses upon the interdisciplinary approach for prompt diagnosis and treatment of papilledema.

Keywords: *Diagnosis, Idiopathic intracranial hypertension, Management, Referral.*

Papilledema is defined as optic disc edema secondary to high intracranial pressure, the etiology for which may be known or unknown (idiopathic) [1]. Idiopathic intracranial hypertension (IIH) is typically defined by exclusion using modified Dandy criteria [2]. IIH typically affects obese women of childbearing age, but it may be seen in patients of any age or weight [3]. Obesity and weight gain appear to be risk factors during adolescence but not in pre pubertal age group [4]. Pediatric IIH is diagnosed in many asymptomatic children during a routine encounter [5].

Pediatric central nervous system tumors are the second most common childhood malignancies, and hence is a major etiology of pediatric papilledema. The purpose of this study was to evaluate papilledema in the pediatric age group at the neuro-ophthalmology clinic of a tertiary eye care center.

A review of hospital records of papilledema patients in the pediatric age group (<15 years) was done for the period January, 2016 – December, 2018. Patients with pseudo papilledema and those on previous treatment were excluded from the study. We reviewed the case records of all the patients and extracted information on age and symptoms at presentation, best corrected visual acuity, pupillary response, extraocular movements, diplopia, fundus biomicroscopy and optic disc findings at presentation. Body mass index was calculated for all the patients. Pre pubertal age was considered to be less than 11 years and pubertal between 11 and 15 years. Best corrected visual acuity was measured using Snellen optotypes and visual field was tested using Bjerrums kinetic perimetry. Neuro-imaging of brain (magnetic resonance imaging (MRI) or MR venogram) findings and serological evaluation including complete hemogram, thyroid function tests were recorded. Results of lumbar puncture and cerebrospinal fluid analysis were available for only one patient, due to lack of consent in others.

Twenty-four patients met the inclusion criteria and the mean age was 11.3 years, youngest was a 2-year-old child. Girls were more frequently affected (13, 54.1%). The commonest presenting symptom was headache **(***n*=12**)**, followed by double vision (*n*=7), and defective vision (*n*=6). Few patients presented with sudden onset of ocular deviation (*n*=2), pain on eye movement (*n*=2), radiating neck pain (*n*=2) and frequent blinking (*n*=1). Best corrected visual acuity remained 20/20 in 18 of our patients in both eyes, while 6 (25%) patients presented with visual morbidity. Of those, three had IIH and others were due to secondary causes. Pupillary examination and color vision remained normal in all our patients except in one diagnosed with craniopharyngioma. Sixth nerve palsy was seen in 12.5% (*n*=3) of patients,and 87.5% (*n*=21) patients had enlarged blind spot on visual field assessment. Overall, 23 (96%) patients had bilateral disc edema and one had unilateral disc edema on fundus examination. The most common etiology in our population was found to be IIH in 79% (*n*=19), intracranial tumors in 12.5%, and the rest falling under infective etiology and obstructive hydrocephalus (***Table*I**).

IIH in children and adolescents is relatively uncommon and may be associated with puberty and resulting hormonal changes