

severe morbidity in youth. GBS and TM were the most common diagnoses.

D.11

Trends in cerebral palsy in Saskatoon, Saskatchewan in the last four decades

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Background: Cerebral Palsy (CP) is a neurological condition arising from a perinatal or intra-uterine stroke. In the past 25 years there has been a revolution in neonatal care. For over 40 years children with CP in and around Saskatoon have been treated through the Kinsman Childrens' Centre (KCC). This is a unique population database covering all CP patients in the region. We analyzed the KCC database to determine if the recent changes in neonatal care were correlated with the incidence of CP co-morbidities. **Methods:** A retrospective study using a Saskatchewan database of cerebral palsy data from the last four decades. **Results:** Over the last 40 years the incidence of visual disturbance and diagnoses of epilepsy in children with CP have remained stable regardless of advances in neonatal care. However, incidences of spine and hip issues requiring orthopedic intervention have halved. **Conclusions:** We hypothesize that advances in neonatal care have been successful in decreasing the incidence of gross motor impairments however have yet to significantly impact impairments relating to cortical network function. Although improvements in care have resulted in a decreased burden of disability, there remains opportunity for further improvements, especially in the settings of epilepsy and long-term visual function.

CNS PLATFORM PRESENTATIONS

E.01

Lost productivity in stroke survivors: a new econometrics model

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Background: Stroke leads to a substantial societal economic burden. We aimed to characterize productivity and factors associated with employability in Canadian stroke survivors. **Methods:** We used the Canadian Community Health Survey (CCHS) 2010-2011 to identify stroke survivors and employment status. We used multivariable models to determine the impact of stroke on employment and factors associated with employability. We used the Heckman model to estimate the effect of stroke on productivity (number of hours worked/week and hourly wages). **Results:** We included data from 91,633 respondents between 18 and 70 years and identified 923 (1%) stroke survivors. Stroke survivors were less likely to be employed (adjusted Odds Ratio 0.39, 95% CI 0.33 to 0.46) and had hourly wages 17.7% (95% CI 8.3% to 27.1%) lower compared to the general population, although there was no association between work hours and being a stroke survivor. Older age, being single and having medical comorbidities

were associated with lower odds of employment in stroke survivors. **Conclusions:** Stroke survivors are less likely to be employed and earn a lower hourly wage than the general population. Interventions such as dedicated vocational rehabilitation and policies around return to work could be considered to address this lost productivity among stroke survivors.

E.02

Streamlining hyperacute stroke management at Royal University Hospital

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Background: The Saskatoon stroke program participated in the ESCAPE trial looking at rapid endovascular revascularization for large vessel occlusion. Improvements were necessary to meet the timelines mandates in ESCAPE and to comply with Canadian Best Practice Guidelines. **Methods:** Retrospective chart review and prospective gathering of key metrics was performed using RED-Cap (Research Electronic Data Capture) software. Changes adapted from Canadian Best Practice Recommendations for Stroke Care, the ESCAPE protocol, and the Calgary stroke program HASTE project were implemented. **Results:** Changes implemented included increasing ambulance bypass window to 12 hours, FAST stroke assessment, emergency department pre-notification and registration, stroke alert protocol, team swarm of the patient, administration of tPA in the computed tomography (CT) room, and rapid access to the endovascular suite. Total number of patients between the years 2012 and 2014 was 287, and of those, 93 received tPA. Door-to-CT times decreased from 40 minutes to 21 minutes from 2012 to 2014; and Door-to-Needle (tPA) decreased from 62 minutes to 46 minutes from 2012 to 2014. **Conclusions:** By following Canadian best practice recommendations for stroke care, the ESCAPE protocol, and adaptation of Calgary stroke program HASTE project, our stroke program implemented changes to reduce treatment times for patients experiencing stroke in our province.

E.03

Use of intra-arterial milrinone rescue therapy in patients with refractory and super refractory vasospasm after aneurysmal subarachnoid hemorrhage

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Background: Vasospasm causing delayed ischemic neurologic deficit (DIND) remains a leading cause of devastating outcome after aneurysmal subarachnoid hemorrhage (aSAH). Therapy using intravenous milrinone (IVM) and intra-arterial milrinone (IAM) has been described. We report our results using IAM in patients with refractory and super refractory vasospasm (RV and SRV respectively). **Methods:** Retrospective single center study of all adult patients treated with IAM between 2006 and 2016 inclusively. IAM was used as part of the Montreal Neurological Hospital Protocol when the patients'