

20% in a previous 2004 telephone survey ( $p=0.00001$ ). **Conclusions:** There is a dramatic improvement in the awareness and knowledge of stroke and heart disease amongst Chinese-Canadians compared to a previous telephone survey in 2004. This significant change could be due to difference in survey technique, but these improvements could also be due to the ongoing health promotion efforts by the Chinese-Canadian Council in support of the Heart & Stroke Foundation.

## P.034

### Evaluation of modeling software for deployment of Pipeline stents in the endovascular treatment of intracranial aneurysms

*F Teoderascu (Edmonton)\* J Rempel (Edmonton) C O'Kelly (Edmonton)*

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**Background:** Flow diversion is an established endovascular method for the treatment of intracranial aneurysms. The Pipeline Embolization Device (PED) remains the only FDA-approved stent available in USA and Canada since 2011. Stent position plays an important role in determining long-term success. The Leonardo Workstation (Siemens) is used for planning the ideal stent size and post-deployment destination. This first-ever study evaluates the accuracy of modeling software in predicting PED location post-deployment. **Methods:** 48 PED-assisted cases were performed 2012-2018 at the University of Alberta Hospital. 20 fit our preliminary inclusion criteria (single stents, simple anatomy). The proximal and distal landing zones were used to model the ideal stent using Leonardo. Accuracy was measured by comparing the Leonardo-predicted stent length vs known length. Results modeling against the dimensions predicted by AngioSuite, an app-based interface designed for use in the planning stages. **Results:** Leonardo workstation is accurate within 5mm at predicting final length for stents oversized by  $\geq 0.25$  cm. The predicted difference by Leonardo workstation & AngioSuite did not demonstrate statistical significance ( $P=0.36$ ,  $P=0.24$  respectively). **Conclusions:** Current angiographic planning tools are accurate at predicting PED deployment within 5mm. Complex vascular anatomy and deployment of multiple stents make prediction challenging. Analysis of these complex cases is currently underway.

## P.035

### Impact of a telestroke system on acute ischemic stroke patient outcomes and thrombolysis rates

*SL Rasmussen (Saint John)\* D Canales (Saint John) D Blacquiére (Ottawa)*

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**Background:** Telestroke can improve ischemic stroke patient outcomes by improving access to physicians specialized in stroke care and increasing the rate of thrombolysis. The aim of this study to assess the effect of the newly implemented Telestroke service on ischemic stroke patient outcomes in New Brunswick, Canada, a province with a high rural population. **Methods:** By means of a retrospective chart review, data for 366 adult acute ischemic stroke patients (Telestroke = 15.3%; non-Telestroke = 84.7%) were collected from emergency department spanning five sites in the province. Outcomes included home discharge rates, complications (i.e., hemorrhage, angioedema),

mortality, rate of thrombolysis and time to treatment. **Results:** No significant differences emerged for home discharge rates, complications, mortality or door-to-needle time. Telestroke patients had a significantly greater rate of thrombolysis treatment (51.8% vs 6.1%) and significantly less door-to-CT time ( $M=27.63$  min vs  $M=100.78$  min) compared to the non-Telestroke group. **Conclusions:** Overall, both groups had similar outcomes with some trends toward improvements for patients utilizing Telestroke.

## P.036

### Stroke in people with Down Syndrome: a retrospective study

*C Cieuta-Walti (PARIS)\* C Mircher (PARIS) I Marey (PARIS) J Toulas (PARIS) H Walti (PARIS) M Conte (PARIS) A Rebillat (PARIS) A Ravel (PARIS)*

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**Background:** There are only few studies approaching the prevalence and cause of stroke in children and adults with Down Syndrome (DS). **Methods:** We did a retrospective study of our cohort of 4962 patients of Jerome Lejeune Institute since 2007. We collected age of stroke, clinical presentation, cause (TOAST classification), treatment and clinical course. **Results:** We identified 20 patients from 6 to 56 years old. In all cases, it was a stroke of ischemic origin: 8 children with a prevalence of 0.33%. 4 had a cardio-embolic origin, 3 secondary to Moya-Moya syndrome and one of undetermined origin. 12 adults (21 to 52 years old) with a prevalence of 0.46%. The majority of the causes of these ischemic strokes are indeterminate (9 of 12). **Conclusions:** We found a low prevalence and an ischemic cause in all cases of stroke, which differs from the general population. For pediatric stroke, the causes are expected thromboembolic in a context of heart disease most often or secondary to a Moya-Moya syndrome. For adult strokes, the average age is younger than that in the general population and the cause is indeterminate in most cases. We must better explore our patients to identify the risk factors in DS population.

## P.037

### Keeping track of time: emphasizing symptom onset-to-hospital time in stroke care

*DE Freedman (Hamilton)\* N Behih (Hamilton) A Elmeligi (Hamilton) D Sahlas (Hamilton)*

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**Background:** The Canadian Stroke Best Practice Recommendations target a median door-to-needle time of 30 minutes. However, brain tissue becomes damaged with any delay from symptom onset. Efficiencies may be gained prior to hospital arrival, by evaluating the timeliness of patient access to hospital from symptom onset, as well as by improving healthcare provider communication, prior to arrival of the patient. **Methods:** We engaged with hospital administration, paramedic services, allied health colleagues, physicians, and engineers, to develop Kairos, a secure online platform that healthcare providers can utilize to track progress en route to hospital, as well as to share pertinent stroke patient information, prior to arrival. **Results:** Kairos is built on React Native, allowing users to access it on android or iOS devices. Paramedics select patient identification, symptom

onset time, and associated symptoms. The receiving hospital can add doctors to the patient's thread, and the stroke team can prepare for patient arrival. **Conclusions:** We plan to measure the median symptom onset-to-hospital time in patients with strokes, and monitor the change in door-to-needle time following implementation at an Ontario Regional Stroke Centre.

## P.038

### Bilateral carotid thrombi and cerebral infarction as a manifestation of heparin-induced thrombocytopenia with normal platelet count: a case report

*P Malla (WASHINGTON)\**

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**Background:** This is the first report of Heparin induced thrombocytopenia (HIT) presenting as bilateral carotid thrombi and multiple cerebral infarcts. **Methods:** 54 year old woman presented with sudden onset of right arm numbness and weakness two days after discharge from hospital. During her hospitalization 9 days prior, she underwent colovesicular fistula repair, received heparin subcutaneously for DVT prophylaxis and had normal platelet counts. **Results:** On this admission, MRI Brain showed scattered multiple acute infarcts within the cortex of bilateral cerebral hemispheres. CT angiography head/neck showed non-occlusive thrombi at the carotid bifurcations bilaterally. Platelet count on admission was 267 K/uL q which decreased to 125 K/uL the next day, after which heparin was started for the carotid thrombi. The platelet count rapidly decreased further to 79 K/uL leading to suspicion for HIT and switching to Argatroban. HIT and serotonin release assay were positive confirming the diagnosis of HIT. CT chest and transthoracic echocardiogram was normal. Venous Duplex of bilateral upper and lower extremities were negative for DVTs. Hypercoagulable evaluation was negative. **Conclusions:** This case highlights the importance of identifying HIT as a cause of arterial thrombosis and stroke even with normal platelet counts in the clinical setting of recent heparin use.

## OTHER ADULT NEUROLOGY

## P.039

### Generating choosing wisely Canada recommendations for neurology

*C Beyak (Calgary)\* F Costello (Calgary) P Couillard (Calgary)*

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**Background:** Many guidelines in neurology encompass the principles of Choosing Wisely Canada (CWC): resource stewardship, patient safety, and high value care. There are currently 49 medical societies with CWC recommendations excluding the Canadian Neurologic Society (CNS). **Methods:** A descriptive process for list generation is outlined. A review of the American Choosing Wisely recommendations was undertaken to generate an adapted list of ten recommendations. CNS board members vetted this list and an online survey was sent to each CNS member. **Results:** A short list of recommendations endorsed by the CNS membership at large will be presented according to the survey results. CWC promotion of the list will

take place to reach specialists, primary care providers, and trainees to ensure high value neurological care delivery is the standard across Canada. **Conclusions:** The process to delineate CWC recommendations for neurology is outlined. Participating in the CWC movement is an important leadership initiative for the CNS. It demonstrates the commitment of Canadian neurologists to the principles of high value patient care in neurology.

## P.040

### Efficacy and safety of periodic albumin infusions in refractory postural orthostatic tachycardia syndrome: a comparative study

*ZA Siddiqi (Edmonton)\* D Blackmore (Edmonton) A Soloway (Edmonton)*

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**Background:** Postural Orthostatic Tachycardia Syndrome (POTS) causes excessive heart rate and orthostatic intolerance on standing. About 25% patients have refractory POTS. Saline infusions reduce improve quality of life in such patients. Intravenous albumin expands circulatory volume by increasing plasma oncotic pressure. Efficacy of albumin infusions in POTS has not been studied. **Methods:** To assess the efficacy of albumin infusions in refractory POTS we treated patients with weekly or biweekly intravenous infusions of either 5% albumin in normal saline (n=16) or normal saline alone (n=7) in this open label comparative study. Most patients had failed multiple treatments. Serial clinical evaluations with individual symptom scores were the primary outcome measure of efficacy. **Results:** Mean follow up was 2 years (range 4 weeks - 5 years). 14/16 patients on albumin and 4/7 patients on saline infusions improved. Significantly more patients (7 vs. 1) on albumin showed marked improvement from baseline with more prominent reduction in orthostatic heart rate (mean reduction 19 vs. 14 beats minute). Albumin was well tolerated. More patients on saline (3/7 vs. 2/16) discontinued infusions due to lack of efficacy. Some patients required a permanent venous catheter. **Conclusions:** Intravenous albumin infusions are well tolerated and more effective than normal saline in refractory POTS.

## P.041

### Magnesium and calcium reduce severity of spatial memory impairments in kainate mouse model of mesial temporal lobe epilepsy

*DH Toffa (Montréal)\* C Kpadonou (Dakar) D Gams Massi (Dakar) M Ouedraogo (Dakar) AD Sow (Dakar) M Ndiaye (Dakar) A Samb (Dakar)*

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**Background:** Calcium (Ca) and magnesium (Mg) are crucial in metabolism, excitability and neuroglial plasticity. Our aim was to evaluate whether Mg (20 mg/kg) or Ca (100 mg/kg) could improve the memory prognosis in the kainic model of mesial temporal epilepsy. **Methods:** Seizures were induced by systemic injection of kainate (8mg/kg) and mice were then treated by ions every 48 hours. A placebo (physiological solution) replaced kainate or ions in specific groups. Six cohorts were studied for seven weeks: control group (G0: no kainate and no ion, only placebo); untreated reference