

**F.10****Management of peripheral nerve sheath tumours: the Toronto Western Hospital experience**

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*Background:* We retrospectively review benign peripheral nerve sheath tumours (BPNST) managed surgically at the Toronto Western Hospital. The incidence of BPNST is classified by anatomic location and predisposition syndrome. Independent predictors of tumour recurrence and symptom resolution are identified. *Methods:* 175 patients with 201 tumours were eligible for analysis. Data was collected on patient age, gender, diagnosis of neurofibromatosis (NF), tumour histopathology, tumour location, tumour volume, and extent of resection. Postoperative motor, sensory and pain outcomes were dichotomized as stable/improved or worse than preoperative scores. Relationships between tumour recurrence, or symptom resolution, and predictor variables were assessed with univariate and multiple logistic regression models. *Results:* Among Schwannomas, subtotal resection, a diagnosis of Schwannomatosis, and larger tumour volume were associated with recurrence ( $p=0.012$ ,  $p=0.048$ ,  $p=0.049$ , respectively); for neurofibromas, subtotal resection and a diagnosis of NF1 were associated with recurrence ( $p=0.036$ ,  $p=0.022$ , respectively). Multivariate analyses revealed subtotal resection as an independent predictor of recurrence for BPNSTs ( $p=0.007$ , OR=13.16, 95%-CI 2.34-52.63). Gross-total resection ( $p=0.023$ , OR=4.01, 95%-CI 1.21-13.22) and presence of a preoperative motor deficit ( $p=0.038$ , OR=8.06, 95%-CI 4.65-90.91) were independent predictors of stable/improved postoperative motor function for BPNSTs. *Conclusions:* Gross-total resection is associated with both reduced

recurrence and improved postoperative motor function, and should be attempted for all eligible BPNSTs.

**F.11****Predictors of length of stay following lumbar fusion**

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*Background:* Accurate prediction of length of stay (LOS) following elective lumbar fusion may help optimize the utilization of resources and may assist with physician and patient expectations. *Methods:* Outcomes were collected prospectively among patients undergoing elective lumbar fusion. Prolonged LOS was defined as  $\geq 5$  days. The influence of baseline and peri-operative characteristics on the odds of prolonged LOS was assessed by a multivariate logistic regression model. *Results:* 150 patients underwent elective lumbar fusion surgery. Patient characteristics were as follows: average age was 61.9, average pre-operative back pain measured by the visual analogue scale was 54.3, and 36.5% of patients were identified as having severe disability, defined by an Oswestry disability index over 40. The average LOS was 4.9 days, with 28% having a prolonged LOS. Majority of patients had one level fused (69.7%). The odds of prolonged LOS were increased by severe disability (odds ratio [OR] 3.58,  $p<0.005$ ), levels fused (OR 2.52,  $p<0.005$ ), greater than 70 years of age (OR 3.81,  $p<0.005$ ), and any treatment related adverse event (OR 4.32,  $p<0.02$ ). There was no significant influence of prolonged surgery ( $p=0.3$ ) or pre-operative back pain ( $p=0.23$ ) on LOS. *Conclusions:* Prolonged length of stay was significantly influenced by severe disability, levels fused, age  $> 70$ , and any adverse events.

**POSTER PRESENTATIONS****CHILD NEUROLOGY****EPILEPSY AND EEG****P.001****The use of evidence based guidelines to identify candidates for epilepsy surgery referral in a paediatric epilepsy practice**

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*Background:* Approximately 95,000 Ontarians, including nearly 15,000 children, have a diagnosis of epilepsy (CCSO, 2015). Management is typically with medication, though surgical resection offers permanent cure in a subsection of patients. A 2012 Health Quality Ontario study estimated a potential 9,300 patients as surgical

candidates, but only 150 operations are performed annually, suggesting the surgery option is underutilized. This study attempts to identify reasons for non-referral in a small epilepsy practice. *Methods:* Evidence based guidelines (Jette, N et al, CMAJ 2014) were used to define eligibility for surgical referral in 274 children with epilepsy. The presence of referral criteria was analyzed. *Results:* 22 children had clear evidence of drug resistance and one other criteria for referral for epilepsy surgery. 10 referrals had been made. Complex syndromes were present in 40% of the referrals, and 10% of the unreferral. Surgical lesions were present on MRI in 60% of the referrals and 14% of the unreferral. The majority of the unreferral have refractory focal epilepsy but no known surgical abnormality on MRI. *Conclusions:* In our practice there is a referral bias towards patients with MRI lesions, whereas those without MRI findings tend not to be referred, despite being refractory.