

kidneys including nephropathy. This study aims to investigate whether administration of ICM in critically ill patients is associated with reduced kidney function and acute kidney injury (AKI). Methods: Data was used from two prospective cohort studies- ACT-TBI and CANCCAP, where patients underwent a whole head CT perfusion with additional CT scans. Serum creatinine (CR) and glomerular filtration rate (eGFR) were sequentially collected for five days of their ICU stay. AKI was evaluated following the KDIGO criteria. Results: Of the 291 patients enrolled, a stratified trend analysis for eGFR could be conducted in 158 patients. No AKI was identified in any of these patients in our study. A significant upward trend in eGFR was observed in those older than 40 years ($p=0.027$), those with hypertension ($p=0.027$), diabetes ($p=0.027$) and history of smoking ($p=0.027$). The volume of ICM received was not significantly associated with patients' eGFR. Conclusions: AKI was not identified in critically ill patients who received ICM but significant upward trend of eGFR was seen in older individuals and those with diabetes, hypertension, and a history of smoking.

E.6

Return to work after aneurysmal subarachnoid hemorrhage: a systematic review of the literature and meta-analysis

MA Rizzuto (Vancouver) L Boone (St John's)* N Pendleton (Saskatoon) F Otaner (Montreal) A Alwadei (Halifax) D Michel (Sherbrooke) C Zhang (Ottawa) J Sonfack (Quebec City) N Al Shehhi (Montreal) AK Malhotra (Toronto)

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Background: Aneurysmal subarachnoid hemorrhage (aSAH) is a devastating disease process that represents a significant health shock for thousands of patients each year. Return to work outcomes and associated factors require evaluation to counsel patients and identify domains on which to focus clinical efforts. **Methods:** A systematic review of the literature following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses 2020 guidelines was performed using MEDLINE, EMBASE and Cochrane databases from inception to February 2024. Proportion of patients returning to work was collected from included studies. Odds ratios were pooled from studies evaluating the association between pre-rupture demographic variables, post-rupture clinical variables and return to work following aSAH. **Results:** Literature search yielded 3861 studies, of which 40 studies were included in the final analysis for a total of 6888 patients. On average, 55% (SD 17%) of all patients returned to work after an aSAH. Female sex (male sex OR 1.75), high grade aSAH on presentation (OR 0.30), and need for permanent CSF diversion (OR 0.50) are significantly associated with

unemployment after aSAH. **Conclusions:** Female sex, high grade presentation, and permanent CSF diversion are associated with unemployment after aSAH. About half of all patients that experience aSAH return to work.

NEUROSURGERY (CNSS)

F.1

Validation and next-generation update of a DNA methylation-based recurrence predictor for meningioma: a multicenter prospective study

A Landry (Toronto)* J Wang (Toronto) V Patil (Toronto) C Gui (Toronto) M Yasin (Toronto) A Ajisebutu (Toronto) Y Ellenbogen (Toronto) A Cohen-Gadol (Los Angeles) G Tabatabai (Tubingen) M Tatagiba (Tubingen) F Behling (Tubingen) J Sloan (Bethesda) A Sloan (Atlanta) L Chambless (Nashville) A Mansouri (Hershey) F Ehret (Berlin) D Capper (Berlin) D Tsang (Toronto) K Aldape (Bethesda) A Gao (Toronto) F Nassiri (Toronto) G Zadeh (Toronto)

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Background: We previously developed a DNA methylation-based risk predictor for meningioma, which has been used locally in a prospective fashion. As a follow-up, we validate this model using a large prospective cohort and introduce a streamlined next-generation model compatible with newer methylation arrays. **Methods:** The performance of our next-generation predictor was compared with our original model and standard-of-care 2021 WHO grade using time-dependent receiver operating characteristic curves. A nomogram was generated by incorporating our methylation predictor with WHO grade and extent of resection. **Results:** A total of 1347 meningioma cases were utilized in the study, including 469 prospective cases from 3 institutions and a retrospective cohort of 100 WHO grade 2 cases for model validation. Both the original and next-generation models significantly outperformed 2021 WHO grade in predicting postoperative recurrence. Dichotomizing into grade-specific risk subgroups was predictive of outcome within both WHO grades 1 and 2 tumours (log-rank $p<0.05$). Multivariable Cox regression demonstrated benefit of adjuvant radiotherapy in high-risk cases specifically, reinforcing its informative role in clinical decision making. **Conclusions:** This next-generation DNA methylation-based meningioma outcome predictor significantly outperforms 2021 WHO grading in predicting time to recurrence. This will help improve prognostication and inform patient selection for RT.