

third ventricle. Methods: 56 year old female presented with amenorrhea, hyperprolactinemia, and progressive bitemporal hemianopsia. MRI revealed a suprasellar mass located within the third ventricle and appearing separate from the pituitary. A supraciliary and translamina terminalis surgical approach to tumour resection was completed without complication. Post-operatively, she developed transient DI which resolved by post-operative day 3 and she was discharged home without any neurological deficits. Pathology revealed pituitaryoma, WHO grade I. Results: Pituitaryomas are rare tumours arising from neuroepithelial cells of the pituitary. The majority of cases are pure sellar or sellar with suprasellar extension, or at least have some connection to the pituitary. In many cases, imaging findings are synonymous to pituitary adenomas. We present a unique case in which the tumour was suprasellar but appeared separate from the pituitary. Surgical intervention is the most highly predictive factor of recurrence, as gross total resection can be curable. Conclusions: Here we present a unique location of pituitaryoma. Due to the exceedingly rare nature of pituitaryoma, unique presentations and management help to provide better understanding of the breadth of this disease presentation.

P.091

Synthetic data reliably reproduces brain tumor primary research data

R Khalaf (Montreal) W Davalan (Montreal)* A Mohammad (Montreal) RJ Diaz (Montreal)*

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Background: Synthetic data has garnered heightened attention in contemporary research due to confidentiality barriers and its capacity to simulate variables challenging to obtain. This study aimed to evaluate the reliability and validity of synthetic data in the context of neuro-oncology research, comparing findings from two published studies with results from synthetic datasets. Methods: Two published neuro-oncology studies focusing on prognostic factors such as serum albumin and systemic inflammation scores were selected, and their methodologies were replicated using *MDClone* Platform to generate five synthetic datasets for each. We used Chi-Square test to assess inter-variability between synthetic datasets. Survival outcomes were evaluated using Kaplan-Meier and t-test was used to determine statistical significance. Results: Findings from synthetic data consistently matched outcomes from both original articles, with serum albumin and systemic inflammation scores correlating with survival prognosis in glioblastoma and metastasis patients ($p < 0.05$). Reported findings, demographic trends and survival outcomes showed significant similarity ($P > 0.05$) with synthetic datasets. Conclusions: Synthetic data consistently reproduced the statistical attributes of real patient data. Integrating synthetic data into clinical research offers excellent potential for providing accurate predictive insights without compromising patient privacy. In neuro-oncology, where patient follow-up pose challenges, the adoption of synthetic datasets can be transformative.

P.092

Incidence of tissue-sampled brain metastases pre- and post-COVID-19 in Newfoundland and Labrador: an eight-year review

A Kazerouni (St. John's) LA Boone (St. John's) T Noble (St. John's) J Barron (St. John's) R Avery (St. John's)*

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Background: Brain metastases indicate an advanced tumour stage for many cancers. We sought to investigate the incidence change of tissue-sampled brain metastases and its relation to staging challenges during the COVID-19 pandemic in Newfoundland and Labrador. Methods: We reviewed all brain metastasis cases from 2015-2022 requiring first-time tissue sampling according to pathology reports from the St. John's Health Sciences Centre. Incidence rates were calculated using yearly population data by regional health authorities and standardized using the 2011 Canadian standard population. Results: We included 173 cases. The average annual age-standardized incidence rate of brain metastases requiring tissue sampling per 100,000 increased from 2.5 (95% CI: 2.0-3.1) pre-COVID-19 to 4.1 (95% CI: 3.3-5.0) post-COVID-19. Brain metastases from lung primaries accounted for 69% of this increase. While incidence declined to near-baseline in the Eastern provincial population by 2022 (3.3; 95% CI: 1.5-5.1), incidence rose into 2022 in the Western population (8.6; 95% CI: 3.9-13.2). Conclusions: These data suggest a delayed presentation of malignancies during the COVID-19 pandemic and underscore the importance of prioritized staging during times of strain on healthcare systems. Regional, temporal trends suggest regions distant from tertiary care centres could face challenges in resolving cases with delayed presentation post-COVID-19.

P.093

BMI as a predictor of recurrence in high-grade meningioma: A single center retrospective cohort study

P Toyota (Saskatoon) AR Persad (Palo Alto) E Liu (Saskatoon) J Saini (Toronto) V Zhrebetskiy (Saskatoon) R Auer (Saskatoon) L Hnenny (Saskatoon)*

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Background: Elevated BMI has been proposed as a risk factor for the development of meningioma. The relationship between body mass index (BMI) and disease control in high-grade meningioma has not yet been examined. A retrospective cohort study was performed to assess the relationship between high-grade meningioma recurrence and BMI. Methods: This is a retrospective cohort study of patients with Grade 2 or Grade 3 meningioma at a single tertiary care center between 2008 and 2017. We collected clinical data including age, sex, BMI, location, Simpson grade, brain invasion, and radiation treatments. Disease control was monitored on followup MRI scans.