QTL-16. ENHANCED RECOVERY AFTER LASER ABLATION SURGERY: A PRELIMINARY ANALYSIS OF A NOVEL PROGRAM

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INTRODUCTION: The concept of enhanced recovery after surgery (ERAS) due to standardized interventions has been gaining more relevance within neurosurgery. Advances were made both in protocols for upper airway surgery. These advances described benefits such as less psychological stress, reduction in hospitalization days, and lower hospital costs, without increasing the incidence of complications. However, no experience has described the applicability of an ERAS program for laser ablation thermal therapy (LITT). OBJECTIVE: We describe the enhancement of ERAS in a 15-patient LITT program reported for laser ablation for brain tumors. Secondly, to summarize the perioperative clinical outcomes of ERAS applied to LITT. METHODS: We performed a retrospective analysis of all adult patients who underwent LITT for primary brain lesions from 2013 to 2021. A multidisciplinary program was created by protocolizing interventions carried out along the path of the patient’s hospitalization. Each recommendation was individually assessed for its appropriateness for enhancing recovery and for its validity with a focused literature review process. RESULTS: A total of 184 patients were included, with a mean age of 60.7 ± 13.5 years, 55% males. 167 tumors were located in the supratentorial compartment, and 17 were infratentorial; the mean tumor diameter was 1.8 ± 0.4 cm. Among the pathologies treated the most were metastasis, and 36.9% were glioblastomas. The mean postoperative day discharge was 1.2 ± 0.8 days. The readmission rate due to surgical complications within 30 days of surgery was 2.7%. These readmission rates fall within the expectations of the literature without a published literature without an ERAS program and longer hospital admissions. One death was recorded in the perioperative period. CONCLUSION: Clinical interventions that could constitute an ERAS program are feasible in laser ablation of brain tumors. This study could be useful as a preliminary framework for the development of future guidelines.

QTL-17. PROPHYLACTIC VANCOMYCIN REDUCES OMMAYA RESERVOIR-ASSOCIATED BACTERIAL MENINGITIS: A 12-MONTH PROSPECTIVE STUDY

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INTRODUCTION: Intraventricular chemotherapy administered through an Ommaya reservoir (OR) constitutes the mainstay of therapy for intraventricular tumors. The intraventricular mechanical milieu is conducive to bacterial meningitis, which is a common cause of mortality and morbidity in patients with ORs. Unfortunately, OR-associated bacterial meningitis remains a relatively frequent, costly, often morbid, and occasionally fatal complication. Clinical interventions that could constitute an OR program are feasible in laser ablation of brain tumors. This study could be useful as a preliminary framework for the development of future guidelines.

QTL-18. LIQUID BIOPSY: CLINICALLY INTEGRATED RESEARCH IN THE MODERN PANDEMIC ERA

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The COVID-19 pandemic forced a redesign of clinical research to adapt to an ever-changing situation while minimizing patient and provider risks and preserving the scientific discoveries at the initial stage of squeezing healthcare services and non-critical research operations were halted. These changes inspired dispersed health care operations and streamlined clinical research. The first wave of COVID-19 hit Detroit, Michigan, in March 2020, causing a complete shutdown of Henry Ford Health (HFH), in COVID-19 emergency care. HFH has a clinically integrated liquid biopsy (LB) program where enrolled patients provide an LB sample via venipuncture within 7 days of each MRI, typically in the clinic at the point-of-care. Prior to COVID-19, 183 neuro-oncology patients were actively providing LB samples in clinic with a mean of 29.9 specimens monthly. Institutional COVID-19 restrictions on non-critical interactions resulted in months were nearly all outpatient encounters utilized telemedicine and decentralized testing off-site from research operations. This halted LB procurement to 4.55 specimens monthly during the same period (p<0.01). One death was recorded and potential gains were then procured with the venipuncture for MRI which streamlined LB operations and improved the patient experience. After this change, LB specimen procurement returned to near pre-pandemic levels with a mean of 48.1 ± 14.04 specimens monthly. CONCLUSION: The number needed to treat was 10 (95% CI [7-26]). The liquid biopsy program was able to continue clinical research during the COVID-19 pandemic through the use of different sampling locations andFORMAT. CONCLUSION: The number needed to treat was 10 (95% CI [7-26]). The liquid biopsy program was able to continue clinical research during the COVID-19 pandemic through the use of different sampling locations and the use of liquid biopsy, and the potential for continued research during the COVID-19 pandemic was demonstrated.

QTL-19. EVALUATION OF INTRA-OPERATIVE BRAIN TUMOUR DIAGNOSTIC SERVICES – A LARGE TERTIARY UK CENTRE EXPERIENCE

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INTRODUCTION: Brain tumour intraoperative diagnosis (smear, frozen section, cryo section) is a commonly performed, routine diagnostic service. Currently, samples must be transported from the operating room (OR) to pathology, impacting turnaround time (TAT), carbon emissions (if cross-site), and motivation for repeat sampling. We performed a broad evaluation of current practice in a large, tertiary UK brain tumour centre, to identify potential gains and real-time tissue diagnosis. METHODS: All brain tumour samples (n=228) sent for intraoperative diagnosis in 2021 were analysed retrospectively. TAT was assessed by capturing different timepoints along the pathway. Concordance between these timepoints was determined by calculating correlation coefficients, with no repeat sampling being sent/available intraoperatively. Predicting neurourosurgical opinion of the intraoperative diagnostic service was dissatisfaction or neutrality (50% and 39% of respondents), with a minority being positive (11%). Reasons for this included: intraoperative delay due to TAT (47%), perceived reduced value of results (41%), and perceived reduced out-of-hours availability (56%). CONCLUSIONS: Current brain tumour intraoperative diagnostic practice relies on physical sample transportation and manual processing; the resultant long TAT causes surgeon dissatisfaction and disperces repeat analysis in the case of non-representative sampling. Real-time tissue diagnostic technologies such as OR-site probe-based confocal endomicroscopy, scanners and Raman spectroscopy should be considered to facilitate faster and repeated examination. The latter may have additional benefits in real-time expert pathology feedback, tumour margin-zone analyses and increased extent of resection.

QTL-20. DIGITAL SOLUTIONS TO IMPROVE DATA QUALITY IN NEUROONCOLOGY RESEARCH

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Abstracts