EXPLORING A LINK BETWEEN ALZHEIMER'S AND GLIOMA BY INVESTIGATING SORL1 NETWORK
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AIMS: Use bioinformatics methods to identify and validate associated proteins and genes in the SORL1 network. Generate a bank of patient demographic, clinical and molecular data to equip patients and families with information, strategies and resources to equip patients and families with information, strategies and resources.

METHOD: Genes and proteins associated with SORL1 were identified using GeneCards. Connectivity mapping of known and predicted interactions linked to SORL1 was performed using STRING. For clinical validation differential expression was investigated using genomic data from TCGA and uVISTA-Portal. A machine learning approach was trained on data from TCGA and uVISTA-Portal. The model was tested on an independent dataset from ICGA.

RESULTS: A total of 73 genes (30 from GeneCards and 43 from STRING) were obtained. 63 genes from the generated SORL1-related network were shown to be differentially expressed with 40 of them being differentially expressed in low grade glioma. Interestingly, the majority of these genes were associated with glioma and glioblastoma. HSPA12A was low expressed in cancerous brain tissue and highly expressed in healthy samples. SORCS3 is differentially expressed in healthy samples and glioma, but significantly low expressed glioblastoma. Cox regression analysis showed that patients with low HSPA12A expression had a higher risk of mortality.

CONCLUSION: Our results suggest that HSPA12A may be a potential therapeutic target for glioma. Further studies are needed to validate these findings.

PALLIATIVE CARBOPlatin CHEMOTHERAPy IN previously TREATED HIGH-GRADE GliOMA: REAL-WORLD EFFICACY AND SAFETY
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AIMS: Effective three-line chemotherapy options for patients after temozolomide (TMZ) and nitrosourea-based chemotherapy for high-grade glioma (HGG) are not well defined. The use of carboplatin is limited due to uncertain around its effectiveness and tolerability. METHOD: Patients with HGG treated with single-agent carbopatin chemotherapy between 2005-2021 were identified from our institutional database. Patient and treatment-related details were acquired from electronic hospital records. SPSS Statistics for Windows, (Version 23.0, IBM Corp.) was used for data analysis. RESULTS: A total of 16 HGG patients were identified. This included 9 glioblastomas (GBM) and 7 oligodendrogliomas (OG). The median age at diagnosis was 48 (22-73) years. All patients initially received a flat dose of 450 mg intravenous carboplatin every 3-4 weeks. All had previously received high dose RT (54-60 Gy), and temozolomide and lomustine-based chemotherapy. Carboplatin was used as third or fourth line treatment. The median number of cycles given was 3 (range: 1-12). Five had rapid decline in performance status after 1-3 cycles. Five patients required dose cycle length adjustment due to grade 1 or 2 haematological toxicity. Other than cumulative fatigue, no other grade 2 or worse toxicities were reported. Median progression-free survival on carboplatin was 3 months (range 1-11 months) and overall survival was 8 months (range 3-26 months). CONCLUSION: Carboplatin is a viable treatment option for HGG with acceptable toxicity rates. However, careful patient selection remains key to attaining maximum benefit.

PREDICTORS OF IMPROVED OUTCOMES IN THE MANAGEMENT OF NEWLY DIAGNOSED GliOBLASTOMA MULTIFORME – RETROSPECTIVE REVIEW OF A SINGLE CENTRE EXPERIENCE
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AIMS: To assess the benefit of combining maximal resection, Gliadel wafer insertion, CCRT and 4 or more cycles of adjuvant TMZ. METHOD: We retrospectively reviewed a cohort of 110 patients who had undergone surgery followed by chemoreadiotherapy (CRT) 60 Gray in 30 fractions and had at least one cycle of adjuvant TMZ from 2007 to 2016, with a minimum of 5 years follow-up. RESULTS: Patients who had maximal safe debulking plus Gliadel wafer insertion, median OS was 19.5 months (95% confidence interval 14-30) those without wafer median OS was 16 months (95% confidence interval 14 – 21), P=0.06; significant on cox regression modelling. RESULTS: Those continuing to receive at least 4 cycles of adjuvant TMZ median OS improved by 10 months compared to those unable to complete 4 cycles (10 vs 20 months). On cox analysis the number of adjuvant cycles of TMZ significantly affects OS, P-value 0.0003. Of these significant predictors of OS when combined (n=12) median OS was 18 months. Compared to 16 months for those who did not receive Gliadel wafers and could not complete 4 cycles of TMZ following CRT. OS log-rank test P-value 0.4 CONCLUSION: We were not able to demonstrate a statistically significant improved OS for those undergoing wafer insertion and TMZ. Data may be inconclusive due to the small numbers, we conclude standard of care should still remain maximal safe debulking followed by CCRT and TMZ.

COPIng Better Together
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AIMS: Coping Better Together is a patient education course that is offered by The Walton Centre for brain tumour patients following surgery. The diagnosis and treatment of brain tumours impacts patients and families long past the time of diagnosis, surgery and adjuvant treatment. The Coping Better Together Course is designed to provide information on the impact on health and wellbeing and aims to equip patients with the skills and resources to better cope with the effects of their diagnosis. CONCLUSION: This in house CNS led patient education course has an impact on quality of life and improves patient experience. The course provides a framework that can be easily utilised, followed and adapted by other health care professionals in providing education and support to brain tumour patients and their families.

IMPACT OF TUBULAR RETRACtor-assISTED TRANSsMUCOLLAL MINIAl PARAFASCICULAR APPRoACH FOR DEEP-SEATED LESIONS IN CORtical VASCULARIZATION
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AIMS: Assess the impact of tubular retractor-assisted transsphenoidal minimally invasive para-fascicular approach to deep-seated lesions in cortical vascularization using indocianin green angiography (ICGA) during removal of deep-seated cerebral tumours. METHOD: Single-centre prospective cohort study of patients with deep-seated lesions – distance to nearest sulcus > 10mm – where ICGA was performed. Zeiss POWER800 Software was used to analyse the following variables - delay time, speed, time to peak and rise time before and after insertion of the tubular retractor (NICO BrainPath). RESULTS: 13 patients were enrolled, 60 regions-of-interest were analysed. The most common pathology was high grade glioma (69%). The average depth of tumours was 34.2mm (23–45mm) and the time-under-retraction was 166mins (45-280 mins). The most common vascular pattern before after tubular retractor was: increase on the delay time, time to peak and rise time (present in 8 patients) and a decrease on the speed (present in 7 patients). Two patients had a major neurological deficit after the surgery. Both had the same flow pattern with an increase on the speed and decrease on the time to peak and rise time, the delay was indistinguishable. CONCLUSION: This is the first study assessing the impact of tubular retractor-assisted tubular retractor-assisted minimally invasive para-fascicular approach (MIPs) in cortical vascularization during deep-seated lesion resection. The most common cortical vascular pattern is: an increase on the delay time, time to peak and rise time and a decrease on the speed. The two patients who worsened vascular injury shared the same pattern (increase on the speed, decrease on the time to peak and rise time, with indistinguishable delay).

THE EVALUATION OF NON-IL TARGETS FOR CAR T THERAPY IN GliOBLASTOMA
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AIMS: The basis of this research revolves around the issue of limited expression of targetable tumour-specific antigens, heterogeneity, and mutation, which impede the development and success of CAR T therapy for glioblastoma. The research will identify an off-tumour cell target involved...