visual acuity was improved more than 0,2 dpt. In 50% (left) and 63% (right) patients showed stable vision.
Gross total resection (GTR) was achieved in 85%, and subtotal resection in 15% of our patients. We observed minor complications in 11 patients (15,3%), and major complications in 3 patients (4%). 7 patients (9%) showed recurrent tumor growth after in average 58 months. Progression free survival after GTR was 128 months, and 58 months after STR.
Conclusion: In our series we could demonstrate that TSMs can successfully be resected using a transcranial pterional approach with a low risk of complications and good visual outcomes.

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A REPLACEMENT METHOD FOR LOCAL TREATMENT STUDIES ON MENINGIOMAS – A MENINGIOMA XENOGRAFT MODEL

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Background: Treatment options for non-operable or recurrent meningiomas are currently still rare. Unfortunately, the useful 2D and 3D cell culture systems do not reproduce the original tumor organization and structure and the few mouse models described are often unreliable or non-reproducible. The aim of this study is to establish a well manageable method to generate human meningiomas in a comparable tumor niche.
Methods: On 0.2cm organotypic brain slices of C57/BL6 mice, which were cultivated under standard conditions for human meningioma cells for 24h, we engrafted $1x10^6$ primary meningioma cells or $0.5mm^2$ meningioma tissue fragments. To evaluate long time cultivability we further cultivated two comparison groups of each specimen for 14d up to 56d.To characterize engrafted cells or tissues FFPE slices were performed by hematoxylin and eosin staining as well as immunohistochemistry for EMA, Vimentin, Ki67, CD31.
Results: Over the experimental period of 28d, brain slices could be kept alive while we co-cultured human meningioma cells and tissues in them. Subsequent immunohistochemical analysis revealed single cells, migrated cells throughout the slice, and spot areas that were EMA, vimentin, Ki67, and CD31 positive. Some specimens were able to induce a new skinned tumor with its own vessels for self-supply. Brain slices inoculated with primary meningioma cells showed better efficiency in this regard. For these even a cultivability up to 56d could be demonstrated.
Conclusion: We successfully established a well reproducible in-vitro-xenograft-model, allow examining tumor growth and treatment, and could be used as a replacement method or preliminary stage for in vivo tests.

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DESIGN AND VALIDATION OF A NEW TOOL TO INVESTIGATE THE QUALITY OF LIFE OF PATIENTS HARBORING MENINGIOMA AND GUIDE THEIR PERSONALIZED CARE: THE M-QOL

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Background: Evaluation of quality of life of patients with meningioma is particularly important as a clinical aspect for medical and psychological cares. Nevertheless, the most specific tools available for practitioners and researchers nowadays were implemented for cancer patients. The benign nature of meningiomas (in 95% of cases) tends to influence differently the quality of life of those patients. In order to evaluate the quality of life of meningioma patient, we've made and validated a specific questionnaire: the M-QoL.
Methods: A group of 25 experts with different specialities participated to the development of this questionnaire. It was administrated to 128 patients, 85 of them whom completed it a second time in the following weeks. M-QoL results were compared to WHOQOL-Bref questionnaire from the WHO for 122 patients. Seventy patients had benefited of a neuropsychological assessment.
Results: Analyses demonstrated psychometric qualities of the questionnaire (validity, reliability, sensitivity) and correlations were found with cognitive evaluations. Evaluation of quality of life through the M-QoL allows a better perception of the difficulties which impair the patients in everyday life.
Conclusion: We developed a new tool dedicated to improve personalized care for patients harboring intracranial meningioma.

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IMPACT AND RISK FACTORS OF RED BLOOD CELL TRANSFUSION ON PATIENTS UNDERGOING ELECTIVE PRIMARY MENINGIOMA RESECTION

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Background: Transfusion of red blood cells (RBC) in patients undergoing major elective cranial surgery is associated with increased morbidity, mortality and prolonged hospital length of stay (LOS). This retrospective single center study aims to identify the impact of RBC transfusions on skull-base and non-skull-base meningioma patients including the identification of risk factors for RBC transfusion.
Methods: From October 2009 - October 2016 we retrospectively analyzed 423 primary meningioma patients undergoing surgery for primary meningioma resection our department.
Results: Of these 423 patients, 68 (16.1%) received RBC transfusion and 355 (83.9%) did not receive RBC units. Preoperative anaemia rate was significantly higher in transfused patients (17.7%) compared to patients without RBC transfusion (6.2%; $p = 0.0015$). In transfused patients, postoperative complications as well as hospital LOS was significantly higher ($p < 00001$) compared to non-transfused patients. After multivariate analyses, risk factors for RBC transfusion were preoperative American Society of Anesthesiologists (ASA) physical status score ($p = 0.0247$), tumor size ($p = 0.0006$), surgical time ($p = 0.0018$) and intraoperative blood loss ($p < 0.001$). Kaplan-Meier curves revealed significant influence on overall survival by preoperative anaemia, RBC transfusion, smoking, cardiovascular disease, preoperative KPS $\leq$ 60% and age (elderly $\geq$ 75 years).
Conclusion: We concluded that blood loss due to large tumors or localization near large vessels are the main triggers for RBC transfusion in meningioma patients paired with a potential preselection that masks the effect of preoperative anaemia in multivariate analysis. Further studies evaluating the impact of preoperative anaemia management for reduction of RBC transfusion are needed to improve clinical outcomes of meningioma patients.

4.2 Schwannomas
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HOW COMMON ARE SICK-LEAVE AND PRESCRIPTION OF ANTIDEPRESSANT AND SEDATIVE DRUGS AFTER VS SURGERY? RESULTS FROM A SWEDISH REGISTRY-BASED MATCHED COHORT STUDY

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Background: When making treatment decisions for VS patients between observation, irradiation, or surgery, it is crucial to have up-to-date information about the likely clinical outcome. As mortality is rare, soft outcome measures are increasingly relevant. The rate of sick-leave, depression, and anxiety after VS surgery are important patient-centered aspects that have not been sufficiently investigated. We have therefore aimed to define the rate of sick-leave, the use of antidepressants and the use of sedatives in 333 Swedish VS patients, from two years before until two years after surgery.
Methods: 333 adult patients with a histopathological diagnosis of VS 2009-2015 were identified in the Swedish Brain Tumor Registry (SBTR). Each patient received 5 matched controls. By linking several national registries, we combined surgical data with demographic data, as well as information on sick-leave and drug use. For each day the rate of patients on full or partial sick-leave, the rate of antidepressant use, and the rate of sedative use were calculated and compared to controls.
Results: The rates of patients on full or partial sick leave were 75% at three months, 47% at six months, 34% at one year, and 25% at two years. Predictors for