Advanced age

While advanced age is already recognized as an independent risk factor for a poor functional outcome following an aneurysmal subarachnoid hemorrhage (SAH), it is also important to investigate the critical age for defining a higher risk population among elderly patients and the clinical grade at admission in order to provide a prognostic description and help guide the management of patients aged ≥ 70 years.

In a study of Senders et al. from Boston and Utrecht, patients were extracted from the National Surgical Quality Improvement Program registry (2005-2015) and analyzed using multivariable logistic regression.

A total of 7376 patients were identified, of which 948 (12.9%) experienced a major complication. The most common major complications were reoperation (5.1%), venous thromboembolism (3.5%), and death (2.6%). Furthermore, 15.6% stayed longer than 10 d, and 11.5% were readmitted within 30 d after surgery. The most common reasons for reoperation and readmission were intracranial hemorrhage (18.5%) and wound-related complications (11.9%), respectively. Multivariable analysis identified older age, higher body mass index, higher American Society of Anesthesiologists (ASA) classification, dependent functional status, elevated preoperative white blood cell count (white blood cell count WBC, >12 000 cells/mm3), and longer operative time as predictors of major complication (all P < .001). Higher ASA classification, dependent functional status, elevated WBC, and ventilator dependence were predictors of extended length of stay (all P < .001). Higher ASA classification and elevated WBC were predictors of reoperation (both P < .001). Higher ASA classification and dependent functional status were predictors of readmission (both P < .001). Older age, higher ASA classification, and dependent functional status were predictors of death (all P < .001).

This study provides a descriptive analysis and identifies predictors for short-term complications, including death, after craniotomy for primary malignant brain tumors [1].

1)
Senders JT, Muskens IS, Cote DJ, Goldhaber NH, Dawood HY, Gormley WB, Broekman MLD, Smith TR. Thirty-Day Outcomes After Craniotomy for Primary Malignant Brain Tumors: A National Surgical Quality Improvement Program Analysis. Neurosurgery. 2018 Dec 1;83(6):1249-1259. doi: 10.1093/neuros/nyy001. PubMed PMID: 29481613.