HCP-07. THE INFLUENCE OF PERIOPERATIVE SEIZURE PROPHYLAXIS ON SEIZURE RATE AND HOSPITAL QUALITY METRICS AFTER GLIOMA SURGERY
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BACKGROUND: Seizures represent one of the most common and feared perioperative complications following brain tumor surgery. Despite conflicting evidence regarding efficacy, prophylactic antiepileptic drugs (AED) are frequently administered in an effort to reduce seizure incidence and improve patient and hospital reported outcomes. The authors address this question by examining an institutional glioma population. METHODS: Patients with glioma undergoing craniotomy for resection between 1998 and 2014 were enrolled into our institutional tumor registry. Perioperative seizures were considered those occurring within 14 days of the index surgery. Student t-test and multivariate logistic regression were used to analyze differences in means between continuous and categorical variables, respectively. RESULTS: Among 347 patients undergoing craniotomy for glioma resection, 299 (86.2%) were administered prophylactic AED post-operatively. Levetiracetam was the preferred agent, utilized in 73.7% of subjects. Sixteen (5.3%) patients receiving prophylactic AED suffered a perioperative seizure, compared to 1 (2.1%) not on prophylaxis (p = 0.62). Among the 17 patients that suffered a perioperative seizure, only 6 (35%) had a prior history of seizure. Mean hospital length of stay (LOS) was similar between both groups: 3.29 (AED) vs. 3.54 (no AED) days, p = 0.626. Similarly, there was no difference in ICU LOS among patients receiving (2.25 days) and not receiving (2.64 days) seizure prophylaxis, p = 0.38. The prophylaxis group had a similar rate of 90-day ED visits as the non-prophylaxis group: 12.0 vs. 17.0%, p = 0.341. However, patients administered seizure prophylaxis were less likely to be readmitted within 90 days of the index surgery (21.9 vs. 35%, p = 0.041). CONCLUSIONS: To the authors’ knowledge this is the first study specifically evaluating the influence of perioperative seizure prophylaxis on emerging hospital quality metrics including length of stay and readmission. Interestingly, while associated with lower rates of readmission, perioperative AED administration fails to reduce the risk of post-operative seizures or hospital and ICU LOS.