Gross Total Resection of High Grade Glioma is Associated with a Decrease in Reportable Quality Metrics

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CNS 2018 ANNUAL MEETING
HOUSTON, TEXAS
OCTOBER 6-10, 2018

Introduction

The Agency for Healthcare Research and Quality (AHRQ) has put forward Patient Safety Indicators (PSIs) as potentially preventable adverse outcomes in the in-patient setting [1]. Centers for Medicare and Medicaid Services (CMS) have also required reporting of metrics known as Hospital-Acquired Conditions (HACs) to evaluate quality of care and determine hospital reimbursement [2]. Due to the importance of preventing these undesired outcomes in high risk brain surgery patients and the increasing use of these metrics in relation to reimbursement, we performed a retrospective analysis of patients at the University of Florida that underwent surgical resection of a high grade glioma to determine correlation between extent of resection (EOR) and incidence of PSI and HAC.

Methods

We queried all patients diagnosed with GBM that underwent surgical resection at our institution between January 2011 and May 2017. Pre and post-operative MRIs were analyzed for EOR. Each chart was reviewed to determine the incidence of PSIs and HACs.

Results

284 patients met inclusion criteria. EOR ranged from 38.96%-100%, with a median of 99.84% and a mean of 95.68%. There were 16 PSI events: 1 mechanical ventilation, 3 sepsis, 4 DVTs, 4 PEs, 4 wound dehiscence. No significant difference was found between EOR in patients with a PSI and without. Thirteen patients were determined to have an HAC, all of which were catheter-associated UTIs. There was no significant difference between EOR and incidence of HACs. When comparing gross total resection(>95%) to subtotal resection (<95%) the odds of encountering a PSI or HAC were 2.5x more likely in the subtotal resection group (p.0508). When controlling for confounders, the odds of encountering a PSI or HAC in the subtotal resection group were 3.9x times more likely (p.0077).

Conclusions

Gross total resection of GBM is associated with decreased incidence of PSIs and HACs, as compared to subtotal resection.

Learning Objectives

1) Understand the importance of patient safety indicators and hospital acquired conditions in modern healthcare

2) Recognize the association between EOR of high grade glioma and the incidence of patient safety indicators and hospital acquired conditions

References

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