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Differences in Hospital Costs During Admission for Surgical Resection of Newly-Diagnosed Glioblastoma Based on Insurance Type

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Introduction

Survival outcomes in glioblastoma remain dismal and are associated with high economic burden of treatment for patients. We investigated the hospital costs of surgery for newly-diagnosed glioblastoma patients.

Methods

Single center,retrospective analysis of insured GBM patients that underwent first resection and hospital charges(2007-2014).

Results

Of 227 patients (median age=62;females=37.9%), 94 (41.4%) had Medicare, 31 (13.7%) had Medicaid and 102 (44.9%) had private insurance. Patients covered under Medicaid had the highest mean cost for resecting GBM of $227,688.9 versus Medicare and privately insured ($171,115.7 and $184,189.35, respectively;p=0.01). Subgroup analysis of inpatient hospital costs revealed patients covered under Medicaid had higher costs related to ICU care ($62,382.5), operating room time ($115,593), labs ($9,335.17) and imaging ($22,872) compared to Medicare ($41,124.2/$95,353/$7,005.37/15,561.2) and privately insured patients ($49,571.4/$93,131/$6,652.9/$14,878; p=0.01, 0.002, 0.01 and 0.001, respectively). Tumor size at diagnosis was largest in Medicaid patients (4.7 cms) versus Medicare (4.14 cms) and privately insured patients (4.38 cm;p=0.03). Only 67.74% (n=21) of Medicaid patients had PCPs while 91.5%(n=86) and 86.27%(n=88) of Medicare and privately insured had PCPs(p=0.004). Medicaid patients(6.9 days) had a longer length of stay in the hospital versus Medicare(4.03 days) and those privately insured(3.9 days;p<0.0001), which could be explained by prolonged ICU stay in the Medicaid cohort(3.6 days) compared to Medicare(2.2 days) and private insurance(2.5 days;p=0.01) cohorts. Kaplan-Meier survival analysis revealed Medicaid patients had poorest survival outcomes(13.8 months) compared to Medicare(15.4 months) and privately insured patients(17.7 months;p=0.04).

Learning Objectives

1. Understand the economic burden associated with treating GBM

2. Discuss mechanisms of higher cost of GBM resection in Medicaid patients.

3. Discuss the importance of access to primary care in reducing the economic burden of GBM

Conclusions

Despite higher surgical costs and longer lengths of stay, GBM patients with Medicaid have poorer survival. This may reflect that these patients present with later course of the disease with larger tumors that take more time in the operating room and confer increased operative risk, or that these patients have more comorbidities. Limited access to primary care may place a role in making a timely diagnosis and ultimately generate higher costs.