

Introduction

- High-volume hospitals are associated with improved outcomes in glioblastoma (GBM). The impact of travel burden to high-volume centers is poorly understood.
- We examined post-operative outcomes between GBM patients that underwent treatment at local, low-volume hospitals with those that traveled long distances to high-volume hospitals.

Methods

- National Cancer Database: surgical GBM patients (2010 to 2014)
- Established two cohorts: patients in lowest quartile of travel and volume (Short-travel/Low-Volume: STLV) and patients in highest quartile of travel and volume (Long-travel/High-Volume: LTHV)
- Outcomes analyzed: 30-day and 90-day mortality, overall survival, and LOS

Results

- Of 35,529 cases, STLV patients (n=3,414) traveled a median of 3 miles (Interquartile range [IQR]: 1.8-4.2) to low-volume centers (5 [3-7] annual cases) and LTHV patients (n=3,808) traveled a median of 62 miles [44.1-111.3] to high-volume centers (48 [42-71])
- Long-term survival improved in LTHV group relative to STLV cohort (median survival 15.6 mo vs 11.7 mo, [p <0.001])

Table 1

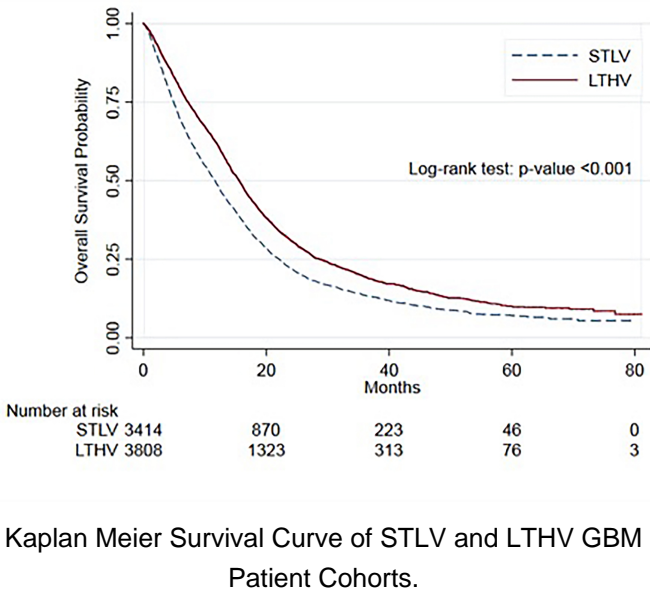
LTHV vs STLV	Outcomes	
	Estimate (95% CI)	P Value
30-day mortality (OR)	0.84 (0.55-1.29)	0.434
90-day mortality (OR)	0.72 (0.55-0.95)	0.019
Length of stay (RR)	0.79 (0.73-0.86)	<0.001
Overall Survival (HR)	0.87 (0.80-0.95)	0.002

OR odds ratio, RR relative risk, HR hazard ratio

Adjusted Outcomes for STLV and LTHV GBM Patients

- LTHV patients: younger, lower CCI, treated at academic centers (84.4% vs 11.9%), less likely to be minorities (8.1% vs 17.1%) or underinsured (6.9% vs 12.1), more likely to receive trimodality therapy (75.6% vs 69.2%; all p <0.001).

Figure 1



Conclusions

- GBM patients who travel farther to high-volume centers have superior post-operative outcomes compared to patients who receive treatment locally at low-volume centers.
- Strategies that facilitate patient travel to high-volume hospitals may improve outcomes.

Learning Objectives

By the conclusion of this session, participants should be able to: 1) Discuss the impact of travel distance to treatment centers and hospital volume on surgical outcomes for patients with glioblastoma 2) Describe patient, clinical, and hospital characteristics associated with travel distance and hospital volume. 3) Discuss the importance on outcomes in the regionalization of GBM care.

References

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