

Determinants of Poor Prognosis After Surgery for Glioblastoma: Predictors of Morbidity and Mortality in a Low Middle Income Country

Extent of resection is the only independent predictor of survival

Sundas Irshad, Haseeb Mehmood Qadri, Ahsan Sarwar, Mahroona Fatima Khalid, Omair Sajjad, Muhammad Jamil, Muhammad Hannan Tayyab, Asif Bashir

Punjab Institute of Neurosciences, Lahore, Pakistan | Correspondence: sundasirshad3011@gmail.com

1 Background & Objective



54%
of all gliomas



≈15 mo
median survival



Recurrence
near-inevitable

Objective: identify factors affecting morbidity and mortality after GBM excision; LMIC data are scarce.

3 Patient Profile

50
patients

47.0±15.8
mean age, yrs

82%
male (n=41)

70%
urban

82%
lower SES

64%
hypertension

52%
diabetes

14%
smokers

GCS pre 13.2±2.8 → post 12.8±3.6

KPS pre 65.2±17.6 → post **52.4±26.1**

8 Discussion

No effect of age, gender, SES

Obesity (BMI >30): poor, univariate only

KPS, GCS prognostic, **not independent**

IDH / MGMT profiling unavailable (public)

2 Methods

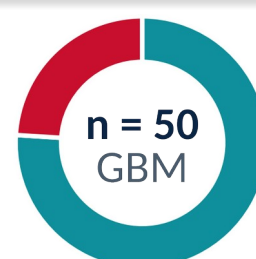
Design: retrospective, PINS, 2022–2024

Cohort: 50 adults, GBM resection, ≥3 mo follow-up

GTR: >90% resection on postoperative MRI

KM + log-rank → **PCA** → **Multivariate Cox** SPSS 29

4 Extent of Resection



76% Gross total resection
(GTR, n=38)

24% Partial resection
(n=12)

5 Univariate Predictors (p-value)

Extent of resection **<0.001**

Postoperative GCS **<0.001**

Preoperative GCS **0.001**

Postoperative KPS **0.001**

Obesity (BMI >30) **0.002**

Tumor origin **0.008**

Preoperative KPS (borderline) **0.056**

Not significant: age, gender, residence, SES, hypertension, diabetes, smoking

KEY RESULTS

Extent of resection: the only independent predictor on multivariate Cox

381.5 d

median overall survival (≈1 year)

437 d

mean follow-up (95% CI 359.8–514.1)

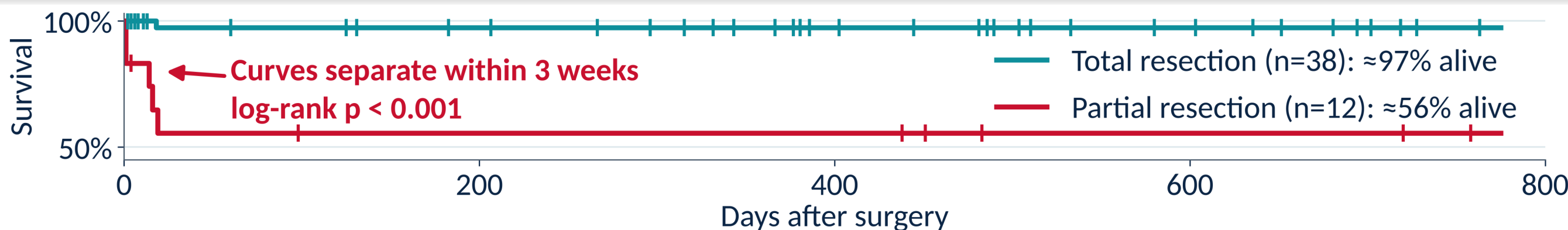
HR 0.041

95% CI 0.003–0.581, p<0.05 (GTR vs partial)

Lower risk

GTR: markedly lower mortality risk

6 Overall Survival by Extent of Resection (Kaplan–Meier, n = 50)



Limitations: small sample · single institution · retrospective · no molecular data · no adjuvant therapy data

Conclusion

Extent of resection is the only independent predictor of overall survival: maximal safe resection should be the goal. Future studies should add molecular profiling and adjuvant therapy data.

11 References

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2. Skardelly M, et al. Front Oncol. 2021;11:748691
3. Bajwa MH, et al. J Pak Med Assoc. 2022;72:S34

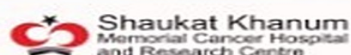
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