Surgical Complications in Newly Diagnosed Glioblastoma Patients Older Than 65 Years: A Cohort Matched Study

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Disclosures

Dr. Isabelle M. Germano reports the following industry relationships:

1) Consulting: Integra Foundation, Brainlab
2) Equity: Elminda
Introduction

- 20% of Americans will be retirement age by 2030 and over 78 million people will be >65 yo by 2035.

- As the *Silver Tsunami* is rolling in, the neuro-oncology community needs to provide evidence on the best treatment for patients >65 yo.

- The aim of this study is to investigate the 30-day perioperative morbidity and mortality in newly diagnosed glioblastoma (GBM) patients >65 yo compared to a matched cohort of patients ≤65 yo.
Methods

• Population: matched cohort of consecutive newly diagnosed GBM patients ≤65 yo (N=20) and >65 yo (N=20) with hemispheric supratentorial tumors.

• Demographics and tumor Characteristics, including location, tumor size (max diameter), extent of resection (EOR) and molecular signature.

• Surgical outcome: perioperative 30-day mortality, morbidity, hospital readmission and length-of-stay (LOS).

• Statistical analysis: unpaired two-tail t-test and Chi-Square, p<.05.
Results-1

Figure 1. Cohorts Demographics: A) age and B) gender. Data shown as mean ± SD (A) and percentage (B).

Fig. 1A

Fig. 1B
Figure 2. Cohorts’ Tumor characteristics by A) location and B) size. Data shown as % (A) and mean ± SD (B).
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**Figure 3.** Extent of resection (EOR) based on 48hr post-operative MRI in the two cohorts. A significant higher number of patients ≤65 yo had GRT, albeit tumor size was not different (see Fig 2B).

GTR= Gross total resection; STR= subtotal resection; *p<.05
Figure 4. GBM molecular signature did not differ in the two cohorts. ATRX and IDH mutation was found in pt in the >65 yo cohort.
Figure 5. Perioperative outcome showed no significant differences between the two cohorts. A) Mortality, morbidity, and 30-day hospital readmission; B) length-of-stay. Data shown as % (A) and mean ± SD (B).
Discussion

• Our study provides evidence that surgery for newly diagnosed GBM patients >65 yo does not lead to additional 30-days peri-operative morbidity than in younger patients.

• Optimal care for GBM patients >65 yo remains an important task for the neuro-oncology community as this cohort is increasing yet often excluded from clinical trials.

• Analysis of additional patient in ongoing to further corroborate these results.
Summary Points

• GBM patients $\leq 65$ yo have significantly more GTR than older patients.

• Yet, no differences in tumor size and molecular signature between $\leq 65$ yo and older patients were found.

• Similarly, there were no differences in hospital length of stay, 30-day hospital readmission, morbidity, and mortality between $\leq 65$ yo and older patients after surgical resection of GBM.