**Introduction:**
Primary tumors of the CNS account for 1-2% of all malignant tumors and are responsible for approximately 2-3% of cancer-related deaths. For these patients, treatment includes surgical resection and postoperative management in the ICU where multimodal monitoring, goal-directed therapy and analysis of serum markers are essential. Serum lactate is a commonly used marker of global tissue perfusion, so it correlates to prognosis and clinical outcomes of patients. Thus, blood lactate have been used widely in critically ill patients. This study aims to assess the behavior of serum lactate as an outcome predictor in patients undergoing surgical resection of brain tumors.

**Methods:**
After Institutional Review Board approval was obtained, a cross-sectional study was conducted. All patients older than 18 years undergoing brain tumor resection between January 2015 and December 2019 were included. We excluded septic patients and those with hyperlactatemia. For analysis patients were divided into two groups according to their serum lactate levels: <2 mmol/L (normal) and ≥2 mmol/L (hyperlactatemia). Measured clinical outcomes included duration of mechanical ventilation, reintubation, length of stay in ICU, length of hospital stay, readmission to the ICU and mortality. P<0.05 was considered statistically significant.

**Results:**
A total of 225 patients were analyzed, of which 154 patients (64.4%) had a normal level of serum lactate and 80 patients (35.6%) presented hyperlactatemia. There were no statistically significant differences in duration of mechanical ventilation (p=0.07), reintubation (p=0.06), length of stay in ICU (p >0.05), length of hospital stay (p>0.05), and readmission to the ICU (p=0.09). Mortality was higher in patients with hyperlactatemia (p=0.04).

**Conclusion:**
Serum lactate is not a good predictor of postoperative clinical outcomes in patients undergoing brain tumor resection. However, it may predict mortality in these patients, so it is necessary to conduct another study with larger sample size.