# 7282 patients and five years of «fast track» in elective brain neurosurgery

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### INTRODUCTION

Enhanced recovery after surgery (ERAS) programs have gained acceptance in various surgical specialties, however no established neurosurgical ERAS protocol for patients undergoing elective craniotomy has been reported in the literature.

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#### METHODS

The data collect by the Post Anesthesia Care Unit (PACU) of the Besta Neurological Institute relate to 7282 patients undergoing general anesthesia (guided TIVA-TCI BIS), for and sub tentorial craniotomy supra operations, from 2015 to 2020. Upon arrival to the PACU, all patients were rewarmed and gradually awakened in order to allow a drug-free neurological evaluation. Patients being expected to be admitted to the Intensive Care Unit (ICU) a priori or following intraoperative complications were excluded from our analysis. The statistical sample is analyzed with the Wilcoxon test.



The average time in PACU was two hours in supra and sub tentorial both interventions (2.05 ± SD 0.88 subtentorials, 2.00 ± SD 0.89 supratentorials). Therefore, it is possible to observe the absence of statistical difference between patients undergoing craniotomy for supra or subtentorial interventions, neurological evaluation time upon awakening and discharge from PACU (Pvalue 0.08) (Fig. 1). 29% Only of patients required hospitalization in the ICU while the remaining 71% were discharged to the ward. Percentages were not substantially affected by the site of intervention. ICU lenght of stay was 40% for subtentorial interventions and 27% for supratentorial interventions (Fig. 2).



**Fig. 1** Box Plot average residence times in PACU and Wilcoxon non-parametric test.

0.0831



## CONCLUSION

Fig. 2 Discharge Unit percentage totally and split for intervention site.

Our results show that the "fast track" in brain neurosurgery is safe as much as in other surgical specialties. However, we have calculated that a futher proportion of 10% of patients were inappropriately admitted in ICU. Why's that? An internal survey among 15 anesthesiologists and 20 neurosurgeons, documented that sometimes they prefer to going to ICU more for fears of exposing patients to an increased risk of complications rather than real clinical needs.

Finally, the presence of PACU is the indispensable condition for a safe and effective "fast track " approach thus avoiding unnecessary ICU admissions and costs.

#### References

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