

generalized neuromuscular dysfunction. Furthermore, the relevance of ICUAW for gastrointestinal dysmotility and impaired enteral nutrition was not studied before.

OBJECTIVES. We investigated gastrointestinal function and nutritional status in patients with and without ICUAW.

METHODS. In this retrospective analysis, we included critically ill patients (main inclusion criterion: SOFA-Score ≥ 8 for three consecutive days after intensive care unit (ICU) admission; main exclusion criteria: pre-existing neuromuscular disease or gastrointestinal dysfunction, present abdominal surgery) on two perioperative ICUs. The Medical Research Council-Sum Score (MRC-ss) was used to diagnose ICUAW (MRC-ss < 48 points) [2]. Within a 14-day observational period the following parameters for gastrointestinal function and nutritional status were collected: gastric residual volume (GRV), administered doses of laxatives, defecation frequency and days with enteral tube feeding.

RESULTS. Thirty patients were enrolled for an analysis. ICUAW was diagnosed in 14 patients (mean age 68.17 ± 11.3 years; APACHE-II 26.1 ± 3.5), 16 patients were ICUAW negative (mean age 59.75 ± 15.5 years, $p=0.19$; APACHE-II 22.9 ± 6.2 , $p=0.09$). Patients with ICUAW were significantly longer sedated and mechanically ventilated. The mean cumulative GRV was higher in patients with ICUAW (1797.9 ± 1896.9 ml/patient vs. 835.9 ± 1101.2 ml/patient, $p=0.058$). Patients with ICUAW needed higher cumulative doses of laxatives (lactulose: 103.4 ± 41.3 g vs. 69.2 ± 57.2 g, $p=0.07$; sodium picosulfate: 60 ± 16.4 mg vs. 34.7 ± 28.3 mg, $p=0.013$; suppositories: 29 vs. 9, $p=0.009$) and the cumulative time of administration was longer (lactulose: 123 vs. 91 days, $p<0.001$; sodium picosulfate: 112 vs. 75 days, $p<0.001$). Patients with ICUAW were more frequently depended on enteral tube feeding after extubation (cumulative: 79/103 days [76.7%] vs. 42/172 days [24.4%], $p<0.001$) and after 14 days (11/14 [78.6%] ICUAW positive patients vs. 3/16 [18.8%] ICUAW negative patients, $p<0.01$). The cumulative defecation frequency was similar between both groups (87/195 days [44.6%] vs. 86/222 days [38.7%], $p=0.26$).

CONCLUSION. Gastrointestinal dysmotility was more frequent in critically ill patients with ICUAW and might result from an impairment of the enteric nervous system. Prolonged dependency of enteral tube feeding might point to a higher risk of nutritional impairment in patients with ICUAW, which should be further investigated.

REFERENCE(S)

- [1] Greet Hermans and Greet Van den Berghe 2015. Clinical review: intensive care unit acquired weakness. *Crit Care*. 19(1): 274.
- [2] Stevens et al 2009. A framework for diagnosing and classifying intensive care unit-acquired weakness. *Crit Care Med*. 37 (10 Suppl):S299-308.

None.

000378

Effect of sedative drugs on outcome in traumatic brain injury patients with intracranial pressure monitoring: a CENTER-TBI study

M. Carbonara¹, B. Gravesteyn², T. Zoerle¹, F. Ortolano¹, T. Birg¹, G. Citerio³, R. Helbok⁴, A. Chieragato⁵, N. Stocchetti¹, HF. Lingsma²
¹Neurointensive care unit, Fondazione IRCCS Ca'Granda Ospedale Maggiore Policlinico, Milano, Italy; ²Center for medical decision sciences, department of public health, Erasmus University Medical Center, Rotterdam, Netherlands; ³School of medicine and surgery, University of Milano-Bicocca, Monza, Italy; ⁴Department of neurology, University of Innsbruck, Innsbruck, Austria; ⁵Neurointensive care, ASST Great Metropolitan Niguarda, Milano, Italy

Correspondence: M. Carbonara

Intensive Care Medicine Experimental 2019, **7(Suppl 3)**:000378

INTRODUCTION. Sedation is a first-line therapy used in intensive care unit (ICU) to control raised intracranial pressure in severe traumatic brain injury (TBI) patients. However, it remains unclear what the effect of different sedative drugs is on outcome. This analysis of the CENTER-TBI study uses comparative effectiveness research to fill this knowledge gap.

METHODS. The CENTER-TBI study (clinicaltrials.gov registration NCT02210221) is a prospective observational longitudinal cohort

study including patients with TBI from 65 centers across Europe. Data were extracted from the CENTER-TBI database v1.1 with Neurobot v2.6. We included all patient who were admitted to the ICU with ICP monitoring and who had more than one day of mechanical ventilation. For every patient, the primary sedative (the sedative that the patient received most of the days) was selected. We focused on midazolam and propofol, since these were the most frequently used.

RESULTS. 4509 patients were included in the CENTER-TBI study: we selected 611 patients who received propofol, and 451 patients who received midazolam. There was a large variation between centers in choice of sedative drugs and length of sedation. The length of ICU stay was 0.84 time shorter (95% CI: 0.81 - 0.87) before adjustment, and 0.83 (95% CI: 0.80 - 0.86) after adjustment for major confounders compared to midazolam. Total adjusted hospital length of stay was similarly 0.97 time shorter (95% CI: 0.95 - 1.00) for propofol versus midazolam patients. The OR of propofol for a better functional outcome was 1.10 (95% CI: 0.83 - 1.45) before adjustment, and 0.93 (95% CI: 0.69 - 1.26) after adjustment.

CONCLUSION. There is large variation in length of sedation and choice of sedative drugs among European neurotrauma centers. Propofol is associated with a shorter ICU and hospital length of stay but similar functional outcome as midazolam.

REFERENCE(S)

1. CENTER-TBI (clinicaltrials.gov NCT02210221) was supported by the European Union 7th Framework program (EC grant 602150)

000408

Measurement of the diameter of the optic nerve sheath by Axial Tomography an Ocular Ultrasound: Non-Invasive evaluation of intracranial pressure

MJ. Domínguez Rivas¹, J. Navarro², ML. Carmona¹, S. Fernández¹, A. Casas¹, I. Valiente Aleman¹

¹Medicina intensiva, University Hospital of Puerto Real, Puerto Real, Spain; ²Radiology, University Hospital of Puerto Real, Puerto Real, Spain

Correspondence: MJ. Domínguez Rivas

Intensive Care Medicine Experimental 2019, **7(Suppl 3)**:000408

INTRODUCTION. Measurement of optic nerve sheath (ONSD) using ocular sonography is an accurate, non-invasive technique for the detection of intracranial hypertension (> 20 mmHg) in a heterogeneous group of patients with acute brain injury when performed by an experienced operator. ONSD ≥ 0.48 cm has the greatest accuracy. In the same way the Axial Tomography proves to be a good technique for demonstrate intracranial hypertension with the increase ONSD. At present, these techniques are increasingly used in neurocritical patients.

OBJECTIVES. To determine the values of the diameter of the optic nerve sheath (ONSD) by computerized tomography (CT) and ocular ultrasound (OU), in neurocritical patients admitted to a polyvalent ICU without neurosurgery. ONSD values of intracranial hypertension are considered by CT > 5 mm and by OU > 4.8 mm (measured both at 3mm from the posterior wall of the eyeball).

METHODS. Cross-sectional prospective study from January 2017 to December 2018, in patients admitted consecutively with neurological pathologies, performing measurements of the ONSD by CT (SIEMENS, WW 2; WL 98; thickness of the cut 2mm) to 3mm of the posterior wall of the eyeball, and measurements of ONSD by OU (ESAOTE ultrasound, linear probe 7.5MHz) to 3mm of the posterior wall of the eyeball. Epidemiological variables are studied, and ONSD (bilateral) measurements are compared by both CT and OU. Statistical study with IBM SPSS statistics 20.0, determination of the T-Student for independent samples and Pearson correlation.

RESULTS. A total of 70 patients with a mean age of 65.23 years (35-86), males 45 (64.28%) were collected. Causes of admission: hemorrhagic stroke-17 (24.28%) Ischemic stroke-22 (31.42%) post-anoxic encephalopathy-9 (12.86%) Meningitis-12 (17.14%) and Others-10 (14.28%). Mean initial GCS: 6,66 (3-13). They required mechanical ventilation: 44 (62.85%), APACHE II medium: $19,85 \pm 7,14$ (8-35). Deaths: 25 (35.71%).