REFERENCE(S)
1. No grants received from any source. We thank SenTec® for lenting us the PtcCO2 monitor for make the study.

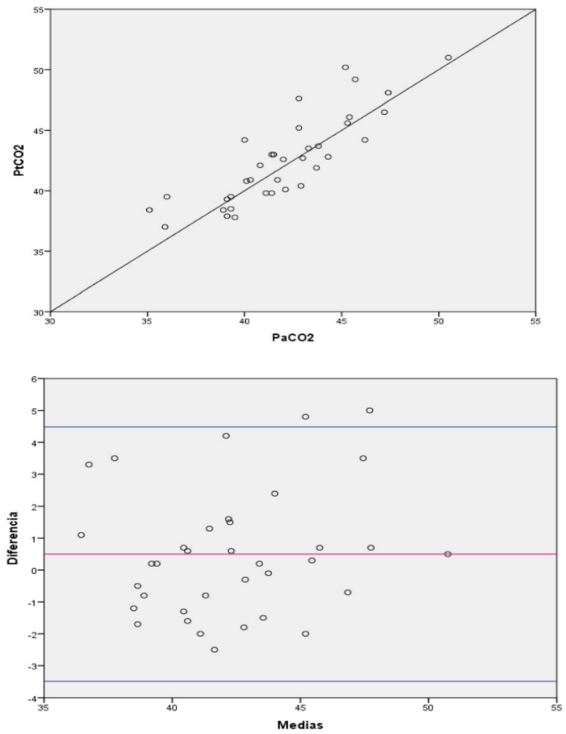

Fig. 1 (abstract 000545). See text for description

000568

Patient State Index, Suppression Rate and association with survival in ICU

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INTRODUCTION. The Patient´s State Index (PSI) is a useful form of continuous neuromonitoring in the Intensive Care Unit (ICU). Suppression rate (SR) is a measurement of the suppression of brain electrical activity. Due to its good correlation with the neurological status of patients in the ICU, we believe they are associated with mortality and neurological damage in critically ill patients.
OBJECTIVES. Establish if there is a relationship between the Patient´s State Index (PSI) and Suppression rate (SR)values with mortality in intensive care patients in a given period.
METHODS. Retrospective study. From January 2016 to November 2017 all patients admitted to intensive therapy under mechanical ventilation were included, continuous qualitative electroencephalography was performed, PSI values and SR were recorded, along with epidemiological variables and SOFA score upon admission. The sample was divided into survivors and non-survivors. Primary objective: association of the PSI and SR with mortality at 28 days
RESULTS. A total of 46 patients were included, 74% of survivors. The diagnosis of septic shock was the most observed. There were no differences in the time of need for mechanical ventilation or in the use of analgesics or sedatives between the groups. The ROC curve in relation to 28-day mortality shows an AUC for PSI of 0.813 (95% CI: 0.650-0.975, p = 0.001), and for SR of 0.857 (95% CI: 0.734-0.980, p=0.001) for detection of survival. The cut point of PSI of 30.5 has a sensitivity of 88.2% and specificity of 83.3%, and the cut point of SR of 2 has 92.3% and 67% of sensitivity and specificity respectively.
CONCLUSION. Under a sedation protocol necessary to achieve minimum RASS 0 to -1, PSI values lower than 30 and SR greater than 2 are auxiliary in the analysis of the mortality risk of the patient in critical condition.

000585

Incidence, risk factors, and effects on outcome of ventilator associated pneumonia in patients with traumatic brain injury: data from the CENTER TBI study

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INTRODUCTION. Traumatic brain injured (TBI) patients are at high risk for respiratory complications and in particular of ventilator-associated pneumonia (VAP). Aim of this study is to evaluate the occurrence of VAP after TBI and its effect on patients' outcome as well as hospital and intensive care unit (ICU) stay.
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 focused on patients with an ICU length of stay >72 hours who were intubated (or mechanically ventilated) for at least 48 hours.
RESULTS. 4509 patients were included in the CENTER-TBI study, 2138 were admitted to the ICU and we focused on 917 patients fulfilling the inclusion criteria. Of these, 188 (20.5%) developed a VAP at a median time of 4.5 days (IQR: 3-7 days) from intubation.
Patients who developed VAP were younger (median age 39.5 vs 51 y/o, p<0.001), with a higher incidence of alcohol abuse (35% vs 28%, p=0.098), thoracic trauma (53% vs. 43.5% p=0.021), and more frequent neuroworsening episodes during ICU stay (44% vs 35%, p=0.039). VAP cohort had a longer duration of mechanical ventilation (median 15 vs 9 days, p<0.001) and ICU stay (median 20 vs 13 days, p<0.001) and a higher incidence of tracheostomies (55 vs. 34%). VAP cohort had lower ICU mortality (7.4% vs 16% p=0.004) as well as a lower six months mortality (16.4% vs 26%, p=0.012). Neurological outcome was similar in the two groups (GOSE $\leq$ 4 in 51.5% vs 58%, p= 0.154).
CONCLUSION. VAP occurs very often in intubated patients after TBI and has an important effect on ICU stay. However, the development of VAP does not seem to have a detrimental effect on mortality and neurological outcome.

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