

to evaluate the ability of nonspecific scores (APACHE II and Simplified Acute Physiology Score (SAPS) II) to predict outcome in SA in a medical ICU.

**Methods** A prospective and monocentric study during 8 years (2000 to 2007) included all patients who were admitted to our unit for SA. Demographic and clinical data were collected at admission. We collected also therapeutic aspects in all patients. Daily, a follow-up of the SS value was calculated with their average. We defined a subgroup that has been mechanically ventilated to evaluate the value of SS in SA, because mechanical ventilation is a main prognostic factor among others. Modulus evaluation required a discriminative application using receiver operating characteristic curves. The statistic analysis has been based on SPSS 11.0 for windows.

**Results** A total of 246 cases of SA (9.7% of all patients admitted in our unit) have been counted during the duration of study. The mean value of APACHE II and of SAPS II was  $8 \pm 5$  and  $20 \pm 10$ , respectively. The mortality rate was 12%. In the subgroup, 90% of patients had APACHE II score  $\leq 8$  and 77% of them had SAPS II  $< 20$ . Both scoring systems had a weak discrimination, with an area under the curve (receiver operating characteristic) 0.655 and 0.557 for SAPS II and APACHE II, respectively.

**Conclusions** APACHE II and SAPS II are not good prognostic tools for status asthmaticus. A new and more adapted evaluation tool is required.

#### P506

### Is Simplified Acute Physiology Score 3 better than APACHE II to predict mortality in transplanted critical patients?

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**Introduction** The performance of general prognostic models in patients with transplantation in need for ICU admission is poor, showing a tendency towards significant underestimation of the risk of dying. The objective of our study is to evaluate the APACHE II score and Simplified Acute Physiology Score (SAPS) 3 and their 90-day mortality prediction after liver, renal and pulmonary transplantation.

**Methods** A prospective cohort study in a transplantation ICU in Porto Alegre, Brazil, during the period May 2006 to July 2007. Clinical data of 277 post-transplantation patients admitted to the ICU were collected at admission and the SAPS 3 and APACHE II score calculated with respective estimated mortality rates. The area under the receiver operating characteristic curve (AUROC) was obtained for both scores.

**Results** Patients enrolled included 172 men and 105 women, with mean age  $45 \pm 2$  years. There were 86 (31%) liver transplantations, 170 (61.3%) renal transplantations and 21 (7.6%) pulmonary transplantations. The 90-day mortality for liver, renal and pulmonary transplantation was: 12 (15.4%), four (3%) and four (26.3%). The mean SAPS 3 score was  $40 \pm 10.2$ ,  $21 \pm 5.8$  and  $63 \pm 19$ , and the APACHE II score was  $25 \pm 8.2$ ,  $16 \pm 5.9$  and  $17 \pm 21.4$ , respectively. Comparing the AUROC from both scores we observed: in liver transplantation the AUROC for SAPS 3 was 0.677 (95% CI = 0.447 to 0.887) versus 0.749 (95% CI = 0.623 to 0.875) for APACHE II; in renal transplantation the AUROC for SAPS 3 was  $-0.619$  (95% CI = 0.355 to 0.882) versus 0.604 (95% CI = 0.355 to 0.882) for APACHE II; in pulmonary transplantation the AUROC for SAPS 3 was  $-0.936$  (95% CI = 0.805 to 1.06) versus 0.750 (95% CI = 0.489 to 1.01) for APACHE II.

**Conclusions** In these preliminary results, no differences were observed comparing SAPS 3 and APACHE II in the mortality prediction from liver, renal and pulmonary transplanted patients.

#### References

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#### P507

### Inter-rater reliability of APACHE II scores in the medical ICU

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**Introduction** The aim of this study was to determine inter-rater reliability of APACHE II scores between an ICU specialist and a well-trained ICU fellow.

**Methods** In a prospective observational study, two raters collect APACHE II scores on 50 consecutive patients in a medical ICU respectively. Intraclass correlation coefficients were calculated for the APACHE II total score, the APACHE II component scores, and the Glasgow coma scale components. Concordance correlation coefficients for each chosen value of the APACHE II component were assessed.

**Results** Mean (standard deviation) APACHE II scores were 21.6 (8.2) for the specialist, and 21.7 (7.1) for the fellow. The intraclass correlation coefficient was 0.848 for the APACHE II total score. Within the score components, the inter-rater reliabilities of acute physiology score, age, and chronic health evaluation were 0.860, 0.987, and 0.645, respectively. See Table 1. Further analysis of each chosen value of the APACHE II component found the lowest reliability for the mean artery pressure, which was 0.482. Further investigation discovered that the most common reason for inter-rater difference is data dropout.

**Table 1 (abstract P507)**

Overall agreement	
Items	Interclass correlation coefficient
APACHE II score	0.848
Acute physiology score	0.860
Age	0.987
Chronic health evaluation	0.645

**Conclusions** The agreements of the APACHE II score among the two collectors was good, but there were more differences in collecting the value of mean artery pressure, for which the original data could not be read directly from medical chart.

#### P508

### Validation of Simplified Acute Physiology Score II and Simplified Acute Physiology Score III as mortality and morbidity risk models

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**Introduction** Simplified Acute Physiology Score (SAPS) II and SAPS III are valuable scoring systems used to predict the risk of mortality in the ICU. The main purposes of this study were to assess the strength of both the scores in predicting the mortality