



## 38<sup>th</sup> Spanish Society of Pharmacology meeting/9<sup>th</sup> Spanish Society of Pharmacogenetics and Pharmacogenomics meeting

### **A comparison of Clinical Risk Index for babies (CRIB-II), Score for Neonatal Acute Physiology (SNAP-II) and SNAPPE-II in predicting parenteral nutrition necessity in low birth weight preterm neonates.**

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Advances in perinatal care have made it possible to improve survival of low birth weight neonates. Clinical risk index for babies (CRIB-II), score for neonatal acute physiology (SNAP-II), and SNAP-perinatal extension-II (SNAPPE-II) have been used as mortality predictors for preterm infants. Feeding intolerance is very frequent in preterm neonates, and the development of an early effective biomarker for its prediction could be useful for carrying out a proper feeding strategy. Our aim was to compare the ability of CRIB-II, SNAP-II and SNAPPE-II in predict the feeding intolerance and parenteral nutrition necessity in preterm neonates.

**Methods:** A retrospective cohort study on preterm neonates' born at Jaen Hospital Complex with low birth weight and  $\leq 36$  weeks of gestation was done. Epidemiological, clinical and clinical scores CRIB II, SNAP-II and SNAPPE-II were recorded.

**Results:** 255 low birth weight preterm neonates, 131 males (51.4%), aged  $\leq 32$  weeks of gestation (71%), were enrolled at our hospital. Parenteral nutrition needed were significantly higher in preterm neonates weighed 2500-1500 g (73.3%) and  $\leq 1000$ g (87%). CRIB-II, SNAP-II and SNAPPE-II mean values were higher in neonates group subjected to parenteral nutrition compared with oral nutrition ( $p < 0.05$ ). CRIB-II and SNAPPE-II scores significantly correlated with parenteral nutrition days ( $p < 0.05$ ). Overall mortality rate was 11%. The 78.6% of all deceased infants needed parenteral nutrition.

**Conclusion:** Clinical Risk Index for babies (CRIB-II) better than SNAPPE-II correlated with the feeding intolerance and thus the parenteral nutrition days in preterm neonates with low birth weight.

Subvencionado: Ayuda del Plan Propio de Investigación de la UMA. Universidad de Málaga. Campus de Excelencia Internacional Andalucía Tech.