Abstracts

188 ANALGESIA AND SEDATION IN CRITICALLY ILL CHILDREN; LOCAL RELIGION OR EVIDENCE BASED?

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Over the last decade increasingly RCT’s have been published about optimal dosing of opioids and benzodiazepines in critically ill children of different age groups.

In this way progress is made about optimal dosing as well as combination of therapies against the background of the use of novel ways of trial design.

To this effect the application of population pharmacokinetics-pharmacodynamics (NON-MEM) using sparse data have guided the design of trials preceded by in vitro simulation and prediction of dose effect responses.

Both in the premature infant as well as in the so-called surgical newborn, dosages have been adjusted based on solid observational and experimental data sets for which the results should be evaluated. Apart from short term pharmacodynamic parameters such as validated pain scores, and eventually pharmacokinetic data analysis potentially equally important is the evaluation of long term consequences both of neonatal pain and the use of opioids. Experimental data have revealed increased neuro apoptosis in the developing brain. The data of a number of RCT’s conducted by our group will be combined with prospective longitudinal data recently acquired combining quantitative sensory testing (QST) under conditions of fMRI.

In this way the question whether neonatal pain and/or opioid use results in altered pain response and long term negative sequelae can be answered.

189 STILL HURTING NEWBORN BABIES EIGHT YEARS AFTER WE FOUND OUT!

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Objective To study whether new pharmacological and non-pharmacological guidelines lowered numbers of painful procedures in neonates and changed the amount and frequency of analgesic therapy as compared to the results of our previous study in 2001.

Design A prospective observational study.Setting: Level III NICU of the Erasmus MC-Sophia Children’s Hospital, Rotterdam.

Participants Neonates admitted at postnatal ages less than 3 days with length of stay at least 72 hours.

Main outcome measures Number of all potentially painful procedures and analgesic therapy recorded at the bedside during the first 14 days of NICU stay.

Results A total number of 21076 procedures were performed in the 175 neonates studied during 1750 patient-days (mean 12.2). The mean number of painful procedures per neonate per day was 11.4 (SD 5.7), significantly lower than the number of 14.3 (SD 4.0) in 2001 (p<0.001). The use of analgesics was 36.6% compared to 60.3% in 2001. Failed procedures encompassed sixty-three percent of all peripheral arterial line insertions vs. 37.5% in 2001 and 9.1% venipunctures vs. 21% in 2001.

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