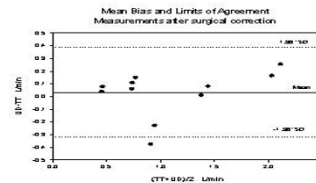


Conclusions: In this study oral ibuprofen is shown to be as effective as IV form for the treatment of PDA, with similar side effects. Considering the cost and availability of IV form, it can be the drug of choice.



226

ACCURACY AND PRECISION OF A NEW METHOD FOR HEMODYNAMIC ASSESSMENT IN CHILDREN UNDERGOING CARDIAC SURGERY BASED ON ULTRASOUND DILUTION METHODOLOGY

V. Perez De Sa¹, S. Johansson², A.-K. Olsson¹, J. Johansson², L. Lindberg¹

¹Pediatric Anesthesiology and Intensive Care, ²Pediatric Heart Surgery, Children's Hospital, Skåne University Hospital, Lund, Sweden

Background and aims: This novel monitor (*COstatus*, Transonic Systems Inc., Ithaca, NY) uses existent intravascular lines for injections of isotonic saline to measure CO and BV (blood volume) by ultrasound dilution methodology. It can also identify the presence of cardiac shunts. We investigated the accuracy and precision of the method during pediatric congenital heart surgery (CHS).

Methods: 9 pts scheduled for CHS [age 8 (0-39) months; weight 7.6 (3.2 - 14.1) kg] were included. Measurements (2-4 injections of saline 0.5-1 mL/kg /session) started in the OR, before/immediately after CPB and then repeated in PICU at 2, 3, 4, 5, 6, 12 and 24 h after weaning. Accuracy was tested in the OR using transit time technology (TT).

Results: 56 measurement-sessions were performed. In 5 pts, during stable hemodynamic conditions, TT was simultaneously obtained (Fig 1). We identified left-to-right shunts in 12 sessions. The coefficient of variation (CV= SD/mean) was calculated for CO, central BV index (CBVI), total end-diastolic volume index (TEDVI), and active circulation volume index (ACVI) in each session.

Parameters	CO	CBVI	TEDVI	ACVI
CV - NO shunts	3.8%	3.2%	3.1%	7.1%
CV - With shunts	15%	12%	10%	9.6%

[Precision analysis]

[Accuracy]

Conclusions: *COstatus* offers reproducible measurements in pediatric patients. It does not require insertion of dedicated catheters. In the absence of shunts, two injections are typically adequate for data collection; in the presence of shunts, more injections may be required.

227

A LOW PLATELET COUNT IS ASSOCIATED WITH TREATMENT FAILURE IN PRETERM INFANTS TREATED WITH IBUPROFEN FOR PATENT DUCTUS ARTERIOSUS (PDA)

F. Schena^{1,2}, E. Ciarmoli^{3,4}, S. Ghirardello^{3,4}, M. Groppo^{3,4}, A. Lonati^{3,4}, F. Mosca^{3,4}

¹NICU, IRCCS Fondazione Cà Granda Ospedale Maggiore Policlinico, ²Department of Mother and Infant Sciences, University of Milan, ³NICU, IRCCS Fondazione Cà Granda Ospedale Maggiore Policlinico - Milan, Milan, ⁴Department of Mother and Infant Sciences, University of Milan, Milan, Italy

Background: Recent studies have demonstrated that platelet count (PLTc) and function have an important role in promoting spontaneous closure of the PDA in animal models. Aim to evaluate whether response to ibuprofen in premature infants with PDA is influenced by PLTc.

Methods: All infants with GA ≤ 28wks born in our unit between 1/1/2007 and 31/12/2009 were retrospectively studied. Exclusion criteria were: congenital malformations, death within 48 hrs and outborn. All infants had echocardiographic evaluation in 1st DoL. Patients with a hemodynamically significant PDA (HsPDA) were treated with a standard course of ibuprofen. GA, BW, antenatal steroids, gender, type of ventilatory support were analyzed along with PLTc before and after treatment. Associations with HsPDA and treatment response were assessed by univariate and multivariate analysis.