USE OF INOTROPIC DRUGS IN THE FIRST 3 DAYS OF LIFE IN PRETERM INFANTS IS ASSOCIATED WITH POOR OUTCOMES

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Introduction

The circulatory transition is one of the most challenging in the neonatal intensive care unit (NICU). The specific reasons are unclear and may be related to the limited capacity of the myocardium, vascular immaturity, persistency of the ductus arteriosus and delay on the pressure changes at pulmonary arteries and cardiovascular output.

Aim

To assess the outcomes of newborns ≤ 1500 grams who have used inotropes during the first 3 days of life.

Methods

Retrospective cohort study. Study population: VLBW (≤ 1500 g) born between 2006 and 2015. Exclusion criteria: malformation, death at delivery room. Estimation of relative risk and CI were calculated using bimodal regression log models.

Results

Table 1 Baseline characteristics of the study population

Characteristics	Inotropic drugs <72 hours (n=250)	No inotropic drugs <72 hours (n=1006)
Mothers age (years)	26 [£] (12 – 46) [¥]	26 (12 – 46)
Birth weight (grams)	817.5 (410 – 1495)	1105 (415 – 1500)
Gestational age (days)	190 (134 – 271)	210 (147 – 260)
SNAPPE-II	51 (0 – 134)	16 (0 – 112)

SNAPPE-II, Score for Neonatal Acute Physiology with Perinatal Extension-II. £ Median; ¥ Variation.

Table 2 Analysis of relative risk for outcomes adjusted for birth weight, gestational age and presence of sepsis.

Event (n)	Inotropic drugs < 72 hours of life		Adj RR	(95% CI)
	Yes n (%)	No n(%)		
Pulmonary hemorrhage (158)	109 (68.98)	49 (31.01)	2.92	(2.06 – 4.14)
Enterocolitis (108)	20 (18.51)	88 (81.48)	0.67	(0.42 – 1.1)
Death				
<7 days (210)	113 (53.80)	97 (46.19)	2.35	(1.73 – 3.19)
8 - 28 days (59)	18 (30.50)	41 (69.49)	0.92	(0.53 – 1.60)
Intraventricular hemorrhage				
Grades III or IV (115)	46 (40.00)	69 (60.00)	1.89	(1.31 – 2.72)

Discussion/Conclusions

The use of inotropic drugs during the first 3 days of life in preterm infants is associated, in this population, to severe peri-intraventricular hemorrhage and neonatal death within the first 7 days of life. Our findings do not agree with previous reports regarding a higher occurrence of necrotizing enterocolitis.