RENAL EFFECTS OF IBUPROFEN DURING THE TREATMENT OF PATENT DUCTUS ARTERIOSUS IN LOW BIRTH WEIGHT PREMATURE INFANTS

Authors: Alketa Hoxha (Qosja)¹, Albana Gjyzari² and Eduard Tushe³.

¹UHC Koço Gliozheni, Tiranë, Albania, ²UHC Nënë Tereza, Tiranë, Albania and ³UHC Koço Gliozheni, Tiranë, Albania.

OBJECTIVES

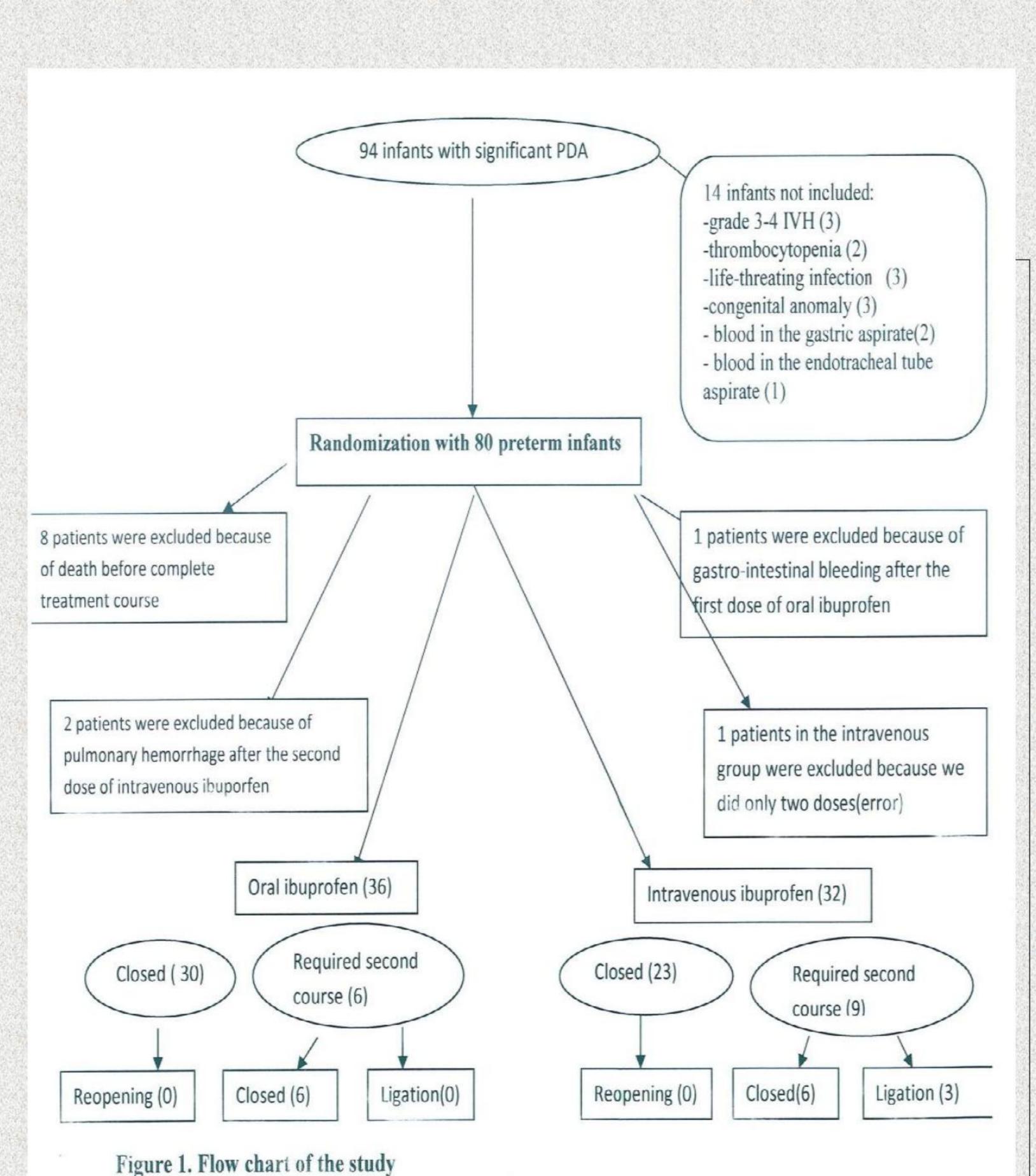
METHODS

Patent ductus arteriosus (PDA) is common in very premature infants. Pharmacological closure of PDA with ibuprofen is better tolerated. Aim of this study was to assess the efficacy and safety of oral ibuprofen and intravenous ibuprofen for the early pharmacological treatment of PDA in preterm infants.

A randomized, single-blinded, controlled study was performed on premature neonates at the neonatal unit tertiary care hospital, from January 2010 to December 2012. The study enrolled 68 preterm infants with gestational age between 28-32 weeks, birth weight ≤ 2000 g, postnatal age 48-96 h, and had echocardiographically confirmed significant PDA. The preterm infants received either intravenous or oral ibuprofen randomly as an initial dose of 10 mg/kg, followed by 5 mg/kg at 24 and 48 h. Serum creatinine (sCr), blood urea nitrogen (BUN) and urine output (UO) were recorded prior to start treatment, and after the course treatment.

TABLES AND GRAFS

RESULTS



36 patients were treated with oral ibuprofen and 32 with intravenous ibuprofen in this period. There was no difference between treatment groups in demographics or baseline renal function. After the first course of the treatment, the PDA closed in 30 (83.3%) of the patients assigned to the oral ibuprofen group versus 23 (71.8%) of those enrolled in the intravenous ibuprofen group (p=0.355). In the evaluation of renal tolerance, none of the patients had oliguria. The serum creatinine levels after the course treatment did not differ significantly from the baseline for each group.

	Oral ibuprofen (n.36)					<u>Intravenous ibuprofen (n.32)</u>			
Mean sCr (mg/dL)	<u>Before</u>		<u>After</u>		P value	Before		<u>After</u>	<u>P value</u>
Mean BUN (mg/dL)	1.07	0.24	1.09	0.24	0.6	1.20	0.95	0.97 0.45	0.07
UO (mL/kg/h)	30.7	14.8	30.4	13.7	0.90	30.3	14.2	30.6 14.0	0.89
Mean sCr (mg/dL)	2.7	0.6	3.0	0.71	0.45	3.2	0.65	3.93 0.5	0.15

CONCLUSIONS

Oral ibuprofen treatment seems to be as efficient as intravenous ibuprofen in closing PDA on the third day of life in low birth weightpreterm infants and without significant changes of renal function.



