

IS PARACETAMOL A REAL ALTERNATIVE IN THE MANAGEMENT OF PATENT DUCTUS ARTERIOSUS IN PRETERM INFANTS?

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Background and importance

Persistent arterial ductus (PDA)

Common cause of morbidity and mortality in preterm infants

Treatment of choice

Ibuprofen: Serious adverse effects and contraindications

Paracetamol

Good results (80-95% efficacy) and few side effects

Aim and objectives

To analyze the effectiveness and safety of intravenous paracetamol in the treatment of PDA hemodynamically significant (hsPDA)

Material and methods

Retrospective cohort study of hospitalized infants in a level-III NICU between July 2013-January 2019

Criteria Inclusion: Gestational age (GA) ≤ 30 weeks and treatment of hsPDA with paracetamol 15 mg / kg / 6h (minimum 8 doses) after contraindication or ineffectiveness of ibuprofen

Closure was considered if ductus < 1 mm and not significant. The need for post-paracetamol treatment was also analyzed

Results

54 patients were included, with an average GA 26 ± 1.8 weeks, average birth weight of 853 ± 293 g

In 14 patients used as the first option and in 40 after ibuprofen

The overall closure rate was 37%. No adverse effects were reported during treatment

Contraindications to ibuprofeno

Reason	First line (n=14)	Second line (n=22)
Digestive	5	11
Kidney failure	3	4
Thrombopenia	3	2
Hemorrhage	3	5

PARACETAMOL	First election		Second election after ibuprofen		Overall
	Contraind.	Overall	Inefectiv.	Contraind.	
Reason					All
Patients (n)	14	40	18	22	54
Closure	7	13	3	10	20
Reopen	2	3	0	3	5
No-additional treatment required	0	6	6	0	6
Additional treatment required	7	21	10	11	28
Surgery	1	16	9	7	17
Deceased	7	5	0	5	12
Closure rate	50,0%	32,4%	16,7%	45,5%	37,0%
Closure rate + no-additional treatment	50,0%	47,5%	50,0%	45,5%	48,1%
Closure rate (excluding deceased patients)	71,4%	34,3%	16,7%	52,9%	40,5%

Conclusions and relevance

The efficacy results are much lower than those published in most studies and case series

In our series, the overall efficacy of paracetamol is 37.0% and 40.5% if we remove the deceased patients from the analysis

Well-designed clinical trials are necessary to help decide the role paracetamol plays in the treatment of ductus. This is because the results are very different whether it is administered as the first choice or after ibuprofen (50.0 or 71.4% non-deceased versus 32.4 or 34.3% non-deceased)

