OFTALMOPEDIATRIA
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EVALUATION OF THE INCIDENCE OF ROP IN THE MATERNITY AND HOSPITAL PRIVATE NETWORK: NEONATAL CARE COULD LEAD TO THE DISAPPEARANCE OF THIS SYNDROME?

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THE AIM OF THE RESEARCH

To verify the incidence of retinopathy of prematurity (ROP) among premature infants treated at the neonatal intensive care unit of the Unimed Hospital Center, Joinville,SC-Brazil (UTINCHU) 11/2014-04/ 2017; and correlate variables of predisposing factors to ROP in preterm infants with ROP and without ROP attended in this institution.

MATERIAL AND METHOOS

This was one transversal, observational, analytical retrospective study, which seeks to correlate a presence of ROP with the clinical conditions of preterm infants treated in the UTINCHU (11 / 2014-04 / 2017).The premature included were: born with <= 1600g, and <= 32 weeks; with data duly filled in the Electronic databases of Neonatology and Pediatric Ophthalmological Evaluation; and were present at least one ophthalmologic evaluation before discharge. The premature excluded: those who did not meet the inclusion criteria. And those deceased before the first ophthalmological examination. The preterm infants were examined after four weeks of life or 32 weeks of gestational age by means of indirect ophthalmoscopy with 2.2 diopter panretinal (Volk) and / or 20 diopters, double aspheric (Volk) lens. The exams were always performed by the same pediatric ophthalmologist, obeying the established criteria by the International Committees. The pupillary dilatation was obtained using Phenylephrine 2,5% and Tropicamide 0,5%, eye drops. For the analyses, two group of premature infants were formed: G1- Premature infants with ROP at any stage; and G2- Premature infants without ROP. Clinical variables analyzed: 1- Gestational age (GA); 2- Birth weight (BW); 3-Apgar in 1° <= 7 and 5° <= 7; 4-body temperature (norm thermic > = 36.5 ° C, hypothermic <= 36.5 ° C); 5-Infection: yes or no and 6-Need for oxygen: No or Yes. Type of therapy: through orotracheal tube (TOT); CPAP; Nasal catheter; Tent or oxygen in the incubator. A variation of the available oxygen flow and the duration of oxygen were also analyzed.

STATISTICAL ANALYSIS

All information obtained was inserted without software Microsoft Excel version 2016 and software analyzes Statistical Package for Social Sciences (SPSS) version 21.0. The quantitative variables were presented through means and standard deviations and qualitative through absolute and related frequencies. We applied the T-test for the scalar variables and the chi-square test for the categorical ones. To quantify the odds retinopathy of prematurity according to the selected predictors, binomial logistic regression models were constructed. In all analytical models, p values lower than 0.05 were considered significant.

RESULTS

TABLE 1: Demographic data of premature infants attended at the Hospital Center of Unimed de Joinville-SC-Brazil: 11 / 2014-04 / 2017

<= 1.600g and < 32 weeks	76 (48,7%)*
> 1.600 g and < 32 weeks	15 (9,6%)
> 1.600g and > 32 weeks	11 (6,9%)
Without information	3 (2,0%)
Deceased before first ophthalmologic exam	13 (8,0%)
<= 1.600 g and <= 32 weeks	
Group 1 with ROP	12 (9,2%)
Group 2 without ROP	64 (22,3%)**
Total	156 (100%)

* P<0,001; ** Data obtained considering only cases with the conclusion of an ophthalmologic exam; *** Data unavailable (deceased or lost to follow-up) before the conclusion of an ophthalmologic examination.

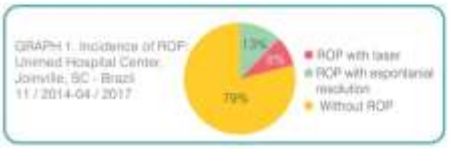


TABLE 2- Univariate Analyze

	Global	Study Group		
		No - ROP	ROP	p - No ROP vs ROP
GA at birth (weeks)	28,8 +- 2,2	29,6 +- 1,7	26,1 +- 1,9	< 0,01
BW at birth (grams)	1105,8 +- 288,8	1171,1 +- 244,1	865,8 +- 142,7	< 0,01
Apgar 1°				
<= 7	39 (24,4)	32 (37,6)	4 (40,0)	0,23
> 7	12 (75,0)	8 (21,1)	4 (40,0)	
Apgar 5°				
<= 7	27 (17,1)	20 (76,9)	6 (66,7)	-
> 7	6 (4,0)	2 (5,3)	0 (0,0)	
Temperature at admission				
Normothermia	7 (13,8)	5 (7,9)	0 (40,0)	0,55
Hypothermia	37 (77,1)	31 (91,5)	6 (60,0)	
Infection				
No	27 (16,3)	23 (69,4)	4 (44,4)	0,11
Yes	17 (26,4)	11 (28,6)	6 (66,6)	
Need for oxygen				
No	5 (10,4)	5 (12,4)	0 (0,0)	0,22
Yes	43 (89,6)	33 (98,8)	10 (100,0)	

Statistical tests: T-Test; ** Chi-square

TABLE 3- Multivariate Analyze

	ROP / No ROP	Adjusted OR (CI 95%)	p
Apgar 1° (minute)			
28 - 32	8 (80,0) / 80 (79,8)	-	0,16
< 28	2 (20,0) / 11 (16,4)	7,25 (0,51 / 110,4)	
Birth weight (grams)			
> 1600g	1 (16,0) / 27 (11,1)	-	0,29
< 1600g	6 (96,0) / 11 (28,4)	4,42 (0,24-33,84)	
Apgar 5°			
> 7	4 (40,0) / 22 (17,3)	-	0,12
<= 7	6 (60,0) / 6 (91,1)	5,66 (0,70-76,19)	
Temperature at admission			
Normothermia	4 (40,0) / 3 (7,9)	-	0,13
Hypothermia	6 (60,0) / 31 (81,6)	5,29 (0,60-46,19)	
Infection			
No	4 (40,0) / 23 (60,5)	-	0,08
Yes	6 (60,0) / 11 (28,9)	2,22 (0,14-35,36)	
Need for oxygen			
No	0 (0,0) / 5 (13,2)	-	-
Yes	10 (100,0) / 26 (86,8)	-	

Statistical tests: T-Test; ** Chi-square

The way, flux and time of oxygen therapy, in these study, weren't statistical significance.

CONCLUSION

1- The incidence of ROP was 21% (mean GA: 26,1 w ; mean BW: 865,0g).
2- In this study, the gestational age, the birth weight and hypothermia were predictive factors for ROP (univariate analyse).
3- In multivariate analyse, weren't find independent factors for ROP development. But this sample is small. We suggest new prospective study, with greater sampling, to observe the importance of the hypothermia in the incidence of ROP.