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Risk factors for Retinopathy of Prematurity at the Hospital de Clínicas de Porto Alegre - Brazil

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Objectives: Retinopathy of prematurity is a leading cause of blindness in children. It is a multi factorial disease, occurring most frequently in the smallest and sickest infants. The objectives of this paper is to evaluate, in a prospective study, the significance of the postnatal risk factors in the development of the disease and evaluate if these factors are independent of the two major risk factors, birth weight and gestational age.

Methods: A prospective examination was conducted on 280 premature children born with birth weight of 1500 g or less and/or 32 weeks or less of gestational age at birth, between October 2002 and April 2006. All of the newborns were examined by indirect binocular ophthalmoscopy with the 28 diopters lens after pupil dilatation with association of Tropicamide 0,5% and Phenylephrine 2,5%. The mapping of the retina with a lid speculum was first conducted after six weeks of life and repeated weekly depending on the classification of the retinopathy. To classify the disease was used the International Classification of Retinopathy of Prematurity from 1984/1987. The main risk factors included in this study were: use of mechanic ventilation, intraventricular hemorrhage, sepsis, APGAR index at 5 minutes, indometacin use, low weight gain at 6th week, and blood transfusions

Results: In this prospective unity-based study, retinopathy of prematurity was diagnosed in 69 of the neonates with a incidence rate of 24,64% (69/280). The disease reached stage ROP 1 in 11,43% of the cases (32/280), stage ROP 2 in 7,86% of the cases (22/280), stage ROP 3 in 4,64% (13/280) and stages ROP 4 and 5 in only 0,36% each (1/280 each). On univariate and multivariate analysis, indometacin use, low weight gain at 6th weeks of life, intraventricular hemorrhage, APGAR index less than 5 at five minutes and mechanic ventilation were considered significantly for the development of the disease.

Conclusions: The incidence rate of 24,64% found in the *Hospital de Clínicas de Porto Alegre - Brazil* was similar with an others incidence/prevalence papers published in Europe and USA. The ophthalmologic examination at the 6th week of life must be done in all very low birth weight infants with 1500 g or less especially in those with gestational age under 32 weeks. After logistic regression this study confirmed some of the risk factors initially considered. The development of the disease is inversely proportional to weight and gestational age at birth.