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### **Prevalence and treatment of Retinopathy of Prematurity in very low birth weight infants at the Centro de Neonatologia do Hospital de Clínicas de Porto Alegre with transpupillary diode laser photocoagulation**

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**Purpose:** To evaluate, prospectively, the prevalence of retinopathy of prematurity (ROP) in all newborn premature children from the *Centro de Neonatologia do Hospital de Clínicas de Porto Alegre* (HCPA) as well as the treatment by transpupillary diode laser in seven infants where ROP reached stage 3, threshold disease. All of the prematurely born children at the neonatal care unit of HCPA between October of 2002 and March 2004 whom fulfilled the criteria to this disease, as follows: children born with weight inferior to 1500 grams or gestational age of 32 weeks or less.

**Methods:** A prospective examination was performed on 138 premature children born with birth weight of 1500 g or less and/or 32 weeks or less of gestational age between October 2002 and March 2004. All of the 138 newborns were examined by indirect binocular ophthalmoscopy with the 28 diopters lens after the instillation of *Tropicamide* 0,5% and *Phenylephrine* 2,5% drops to dilate the pupils. The mapping of the retina with a lid speculum was first conducted after 6 weeks of extra-uterine life and repeated weekly depending on the classification of the ROP. To classify ROP was used the International Classification.

**Results:** In this prospective study, ROP was diagnosed in 38 of the neonates with a prevalence rate of 27,54 % (38/138). The disease reached stage of ROP 1 in 14,59 % of the cases (20/138), stage of ROP 2 in 7,97 % of the cases (11/138) and stage of ROP 3 in only 5,07 % (7/138). None of the 138 neonates in the group of risk for ROP reached stages ROP 4 or ROP 5 needing vitreo-retinal surgery.

Only 7 of the 138 children examined showed (7,07 %) necessity for diode laser treatment under general anesthesia to prevent ROP progression. All of the newborn treated were ROP 3 – threshold and plus disease. Two of the treated children needed a second session of the laser treatment.

**Conclusions:** The ophthalmologic examination at the 6th is an important instrument for the detection of ROP and must be done in all very low birth weight infants with 1500 g or less especially in those with gestational age under 32 weeks. This study did not find any case of stage ROP 4 or stage ROP 5 in this group of 138 patients demonstrating the efficacy of the retinopathy of prematurity related blindness prevention project of the HCPA (effective since October 2002).