Full-term newborns physiological visual skills: evolution during the first 48 hours of life

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Objective. Full-term newborns show visual skills that include recognition of black and white or colored contrasts, target seeking, fixation and a certain degree of visual acuity. The aim of this study is to examine the evolution of visual skills in the first 48 hours of life in physiological newborns born at term.
Materials and Methods. One hundred physiological infants (mean gestational age 39.6 ± 1.4 weeks, mean birth weight 3359 ± 396 g) were assessed, divided in two populations: 50 newborns (27 males, 23 females) examined at 24 ± 2 hours of life, and other 50 newborns (25 males, 25 females) examined at 48 ± 2 hours of life. The visual assessment battery developed by Ricci *et al*. was used. The evaluation includes: ocular movements assessment (spontaneous behaviour and in response to a target), fixation and seeking skills of black and white target, recognition of a red and yellow target and visual acuity skills (Teller cards).
Results. Comparing the assessments performed at 24 and 48 hours of life, we observed a statistically significant increase in the share of neonates able to complete vertical tracking (25% increase, $p < 0.05$), to discriminate stripes (39% increase, $p < 0.05$) and to keep attention at distance (44% increase, $p < 0.05$).
Conclusions. Our study shows an evolution of the visual performance in a short time of 24 hours, not dependent on the functional exercise. The role of environmental stimulations contributing to the early visual experience in this process needs to be further investigated. Assessment of visual function should be part of the standard newborn neurological examination.