

EARLY DETECTION OF RETINOPATHY IN PREMATURE INFANTS USING MIXTURE OF EYES DROPS WITH 2.5% PHENYLEPHRINE HYDROCHLORIDE AND 0.5% TROPICAMIDE

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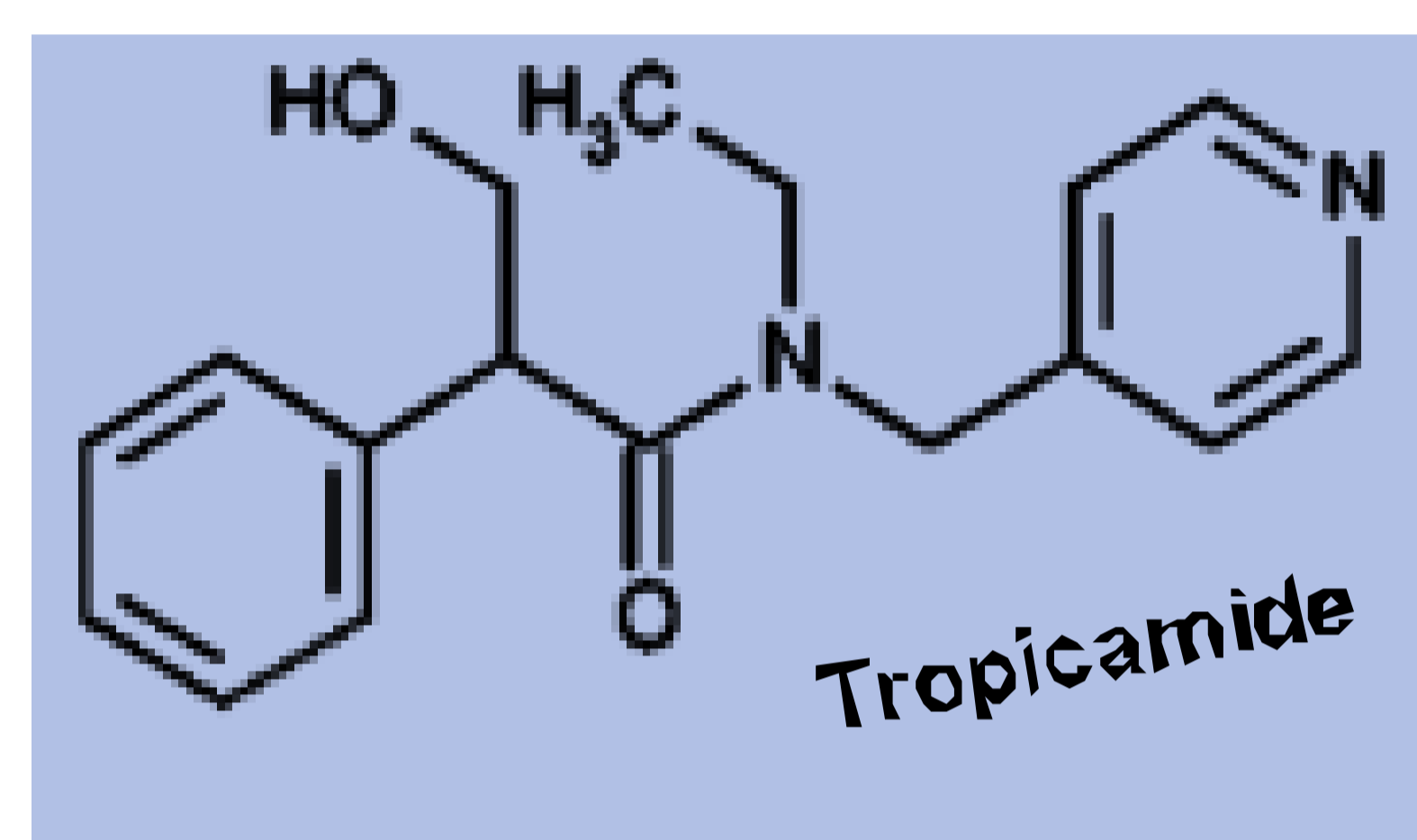
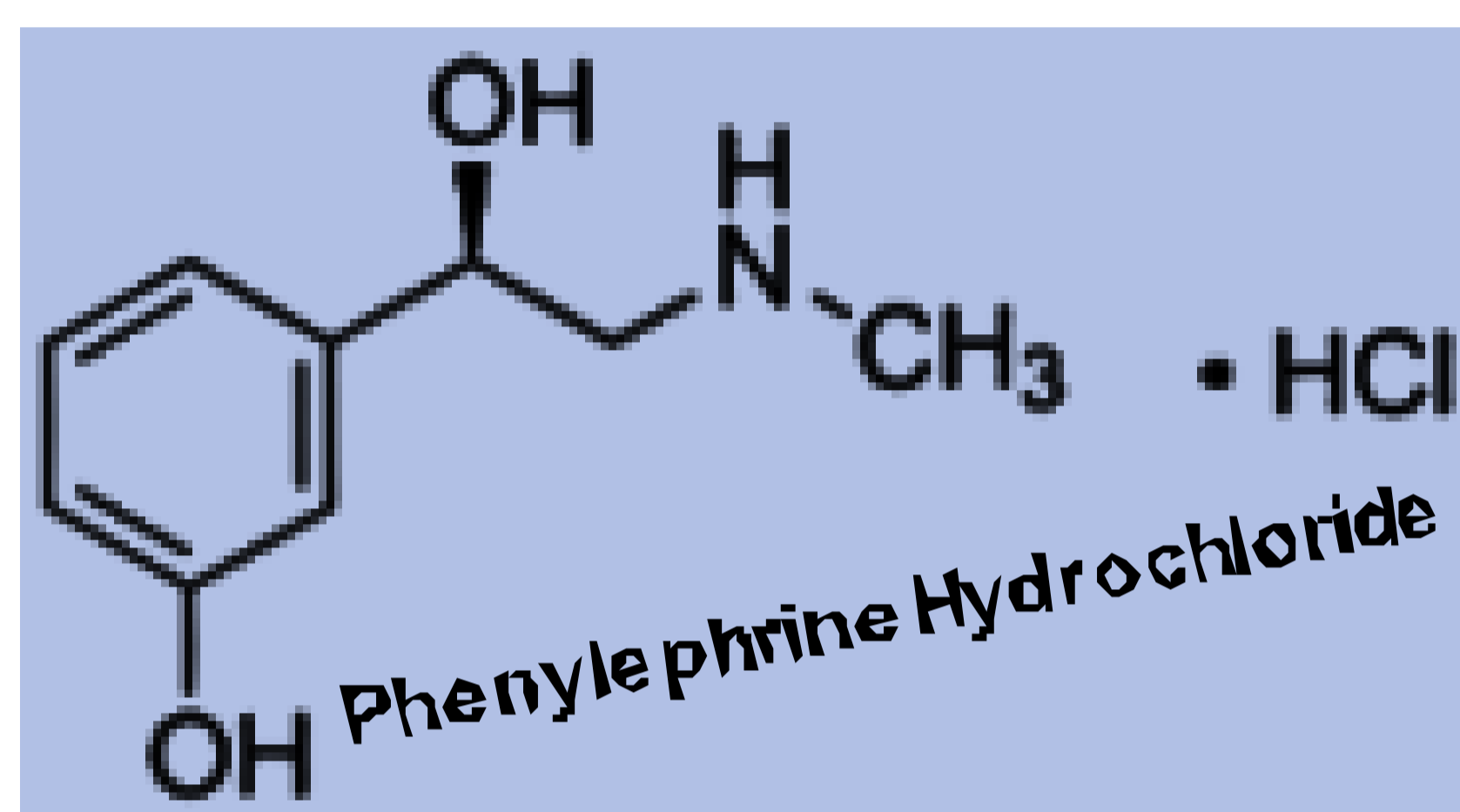
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BACKGROUND

Retinopathy of prematurity (ROP) is an eye disease that can happen in premature babies. It causes abnormal blood vessels to grow in the retina and can lead to blindness. Birth weight and gestational age are the most important risk factors for development of severe ROP. Phenylephrine and tropicamide are most commonly used as mydriatic agents for eye examination.

PURPOSE

Using combination of 2.5% phenylephrine hydrochloride and 0.5% tropicamide drops, in the Neonatal Intensive Care Unit (NICU), help us to discover abnormality in retinal vascularisation in initial phase of retinopathy. That help in effective medical treatment and healthy visual function.

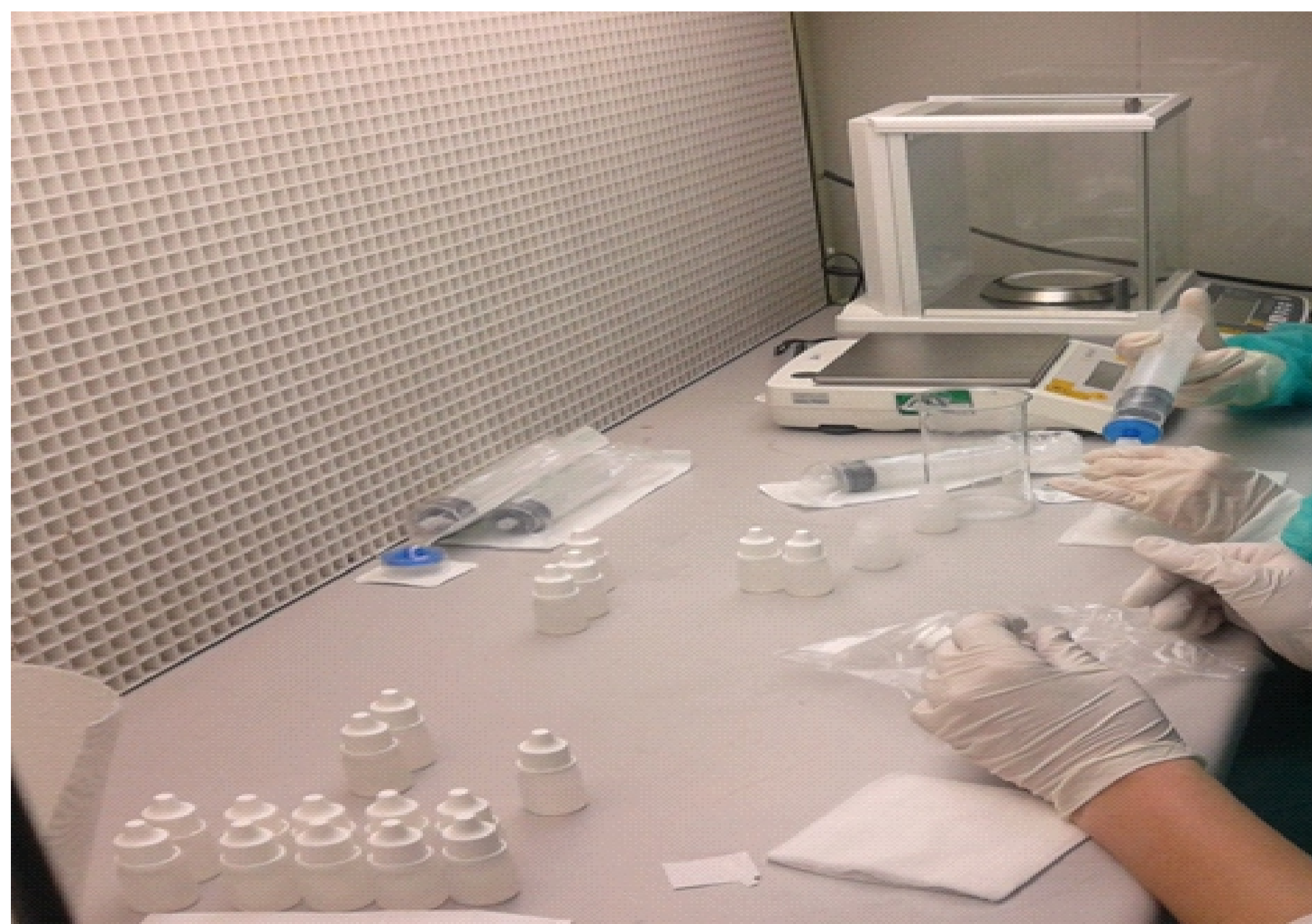


MATERIAL AND METHODS

1540 premature infants with gestational age between 26 and 32 weeks and/or birth weight between 680 and 2100 grams were examined by binocular indirect ophthalmoscopy between 2 to 4 weeks after birth, and followed up till retinal vascularisation was complete. Pupillary dilatation was done with a mixture of 2.5% phenylephrine hydrochloride and 0.5% tropicamide and instilled twice at intervals one hour before examination. The eye drops were prepared in our Clinical Pharmacy. In order to identify the stage of premature retinopathy, eye examination was repeated every 7 to 10 days. Depending on the results, the term of the next examination was determined every 7 to 14 days. Once the regression is achieved in two consecutive examinations, the monitoring is done once a month.

RESULTS

In this study, a total of 1540 premature infants were screened from May 10, 2017 to May 16, 2018. Maximal pupil dilatation was achieved with a mixture of 2.5% phenylephrine hydrochloride and 0.5% tropicamide. All examined infants had some type of ROP. Some children had spontaneous regression. Four infants had ROP that had to be treated with Anti-VGF therapy within 24 to 72 hours.



CONCLUSION

Early detection of ROP in premature and very-low-birth-weight infants is crucial. Screening programs for ROP should be implemented in every NICU and should be carried out by an experienced ophthalmologist and offered to all premature infants with birth weight of ≤ 2100 grams or gestational age of ≤ 32 weeks to insure early detection and timely treatment of threshold ROP to prevent its blinding sequelae.

