Retinopathy of Prematurity – a Variable Pathology in Various Parts of the World. Screening Guidelines Approach in Ukraine

Kateryna Fedchuk, Iurii Barinov, National Children Specialized Hospital "Ohmatdyt", Kyiv, Ukraine

INTRO

ROP is a diasease that affects prematurely born babies around the world. Being one of the leading causes of childhood blindness, it is a treatable condition and potential visual loss can be prevented in absolute majority of cases. The presentation and course of the disease may be dramatically different in different countries. Screening criteria vary between 28 and 37 weeks of gestation age (GA) and between 1051g and 2000g of birth weight (BW) worldwide, also including other various criteria.

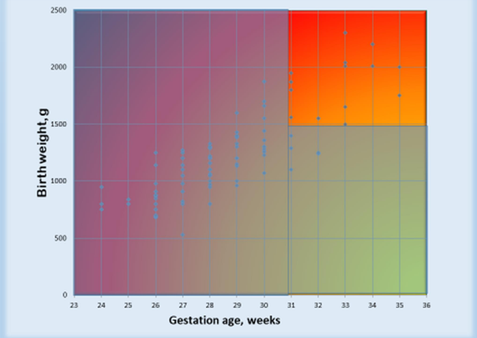
METHOD

All newborns who developed vision threatening ROP and undergone treatment due to this disease in our hospital from 2015 till 2021 were included in the study. GA of 32 and more weeks and BW of 1500g and more were the inclusion criteria.

RESULTS

In 2015 among all the babies that needed ROP treatment 3 were with GA 32 and more weeks and BW of 1500g and more;
in 2016 - 6 babies met these criteria;
in 2017 - 7 babies;
in 2018 - 7 babies;
in 2019 - 6 babies;
in 2020 - 6 babies;
and in 2021 - 5 babies met the study criteria.
In all the presented cases type 1 ROP developed, in vast majority – aggressive forms were diagnosed. The included cases made 5,91% of all the patients that undergone ROP treatment in this period of time.

Newborns that needed ROP treatment in "Ohmatdyt"



The clear orange field depicts babies in Ukraine that might have lost their vision if included in <32 weeks GA and ≤1500g BW screening criteria and untreated.



UKRAINE

- Second largest territory in Europe
- Area – **603,628 km²**
- Population – **36,744,636 (2023 estimate)**
- **7** centers throughout the country performing **laser treatment**
- **Vitrectomies** for ROP are performed at the **National Children Specialized Hospital "Ohmatdyt", Kyiv**

Ukraine ROP Screening Criteria
Gestation age – **≤32 weeks**
Birth weight **≤ 1500 g**
Children who received long lasting (>30 days) oxygen treatment or artificial ventilation > 5days, regardless gestation age.
NB! Ophthalmological screening of babies with GA 22-**37** weeks.

UK ROP Screening Criteria
All infants less than **31 weeks'** gestational age (up to and including **30 weeks and 6 days**) OR less than **1501g** birth weight should be examined to screen for the presence of ROP (one criterion to be met for inclusion).

G-ROP -1 (2018) Screening Criteria (multicenter study in Northern America 2006-2012)

- Gestation age < 28 weeks
- Birthweight < 1051 g
- Weight gain on days 10-19 < 120 g
- Weight gain on days 20-29 < 180 g
- Weight gain on days 30-39 70 g
- Hydrocephalus

CONCLUSIONS

Precise analysis of epidemiology and individual perspective on screening guidelines for ROP is very important. Different aspects may influence morbidity and presentation of the disease worldwide. It is necessary to approach ROP management based on the revised local data.

A long-term data base has been collected to update the ROP management protocol in Ukraine and to lower the gestational age as a criterion. However the russian war against Ukraine has led to many losses in medical care (ruined hospitals, equipment, medical staff losses) and we do clearly understand that new data is to be collected now and a new approach to guidelines should again be applied considering the economic and social changes that may directly influence ROP morbidity.

Baby F.
34 weeks GA, 2200 g BW




Baby R.
(a twin baby, the other twin developed ROP Type 2, needed np treatment)
34 weeks GA, 2200 g BW




Baby D.
33 weeks GA, 1950 g BW




There is no financial interest regarding the subject of this presentation to disclose