Retinopathy of prematurity

Industrialized (USA)
Latin America
Asia
Africa
Retinopathy of Prematurity—USA
Current Situation

• Low risk of ROP blindness (≤8/1000) due to good neonatal care and ROP screening

• 2\textsuperscript{nd} leading cause of childhood blindness

• High cost to individual and community


## Shortcomings of Current ROP Management

<table>
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<th>Category</th>
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| Screening | Traumatic  
Disruptive  
Requires special expertise*  
Many unnecessary screenings  
Telemedicine limited |
| Treatment | Destructive  
Invasive  
Time-consuming  
Requires special expertise* |
| Follow-up | Coordination of care                                                        |
| Prevention| Did someone say prevention?                                                 |
Efficacy of Intravitreal Bevacizumab for Stage 3+
Retinopathy of Prematurity

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Challenges in USA

• ROP remains a major cause of childhood blindness
• Telemedicine may reduce burden of ROP screening, provide better accessibility, and more objective determination of plus disease
• Refining NICU surveillance protocols to minimize number of screenings while not missing any cases
• Treatment with anti-VEGF agents may offer better visual outcomes, but need further study
• Continue to refine supplemental oxygen therapy
• Role of genetics?
Population: 550,000,000
Live births: 10.4/year
Pop < 15 yo: 28-43%
Urban population: 75% (40-94%)*

Causes of childhood blindness**: ROP
42,000 premature babies < 1,500 g to examine/year
4,200 with severe ROP needing treatment/year
cataract, uncorrected refractive errors

PAAO: 26,000 ophthalmologists
Lack of other eye care professionals

* [www.eclac.cl/Celade/publica/bol63/BD6311.html](http://www.eclac.cl/Celade/publica/bol63/BD6311.html)
** Gilbert C et al, The Lancet 1997;350:12-4
How do we prevent blindness due to ROP in Latin America?

Quality of neonatal care
Quality of services provided
Availability of adequately trained human resources
• nurses, neonatologists
Availability of equipment
• Oxygen monitors, ventilators
Protocols

Detection and treatment
Availability of adequately trained human resources
• ophthalmologists
Availability of equipment
• Indirect ophthalmoscopes, 28 diopters lens, diode laser
Diagnosis and treatment protocols

Visual (re)habilitation

ROP is an indicator of the quality of neonatal care
ROP in Latin America: Current situation

- PAHO (Eye care and CLAP), NGOs, PAAO, SIBEN collaboration
- Regional ROP working group established (IAPB-LA Childhood blindness committee): over 50 ROP workshops since 1997
- National ROP committee, national screening criteria: Brazil, Colombia, Cuba, Ecuador
- National policy MoH: Peru, Mexico, Argentina
- Governmental financial support: Chile, Costa Rica
ROP in Latin America: Challenges

- Wide variation in implementation of NICU facilities
- ROP screening and treatment not available in all NICUs
- Wide variation in implementation of ROP screening programs
- Transportation problems
- Screening criteria not established in several countries: different at-risk population
- Availability of treatment equipment (laser/cryo)
- Training health care personnel
- Training ophthalmologists to examine and treat
- Information to parents
- Follow-up/low vision services/affordable glasses
- Monitoring & evaluation of implemented programs
- Government support - sustainability

Courtesy: Dr C Zuluaga
ROP in Asia: screening and treatment

- Specific protocol for screening in India exists
- Interested and trained doctors and staff are getting better
- Quality care is available
- Magnitude of the problem growing (urban areas)
RoP in Asia: Challenges

• Implementation of the programme is not made mandatory
• Not uncommon to see stage 5 ROP
• Quality NICU care is not uniform
• No good networking exist between NICU staff and the ophthalmologists
• Awareness among NICU staff, parents almost nil
• Involvement of Govt health care system??