

Universal Eye Screening of Infants at Birth?

Pilot Data from the KUSP Trial

(A KIDROP Initiative)



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No Financial Interest

Recap of the KIDROP initiative

Retinopathy of Prematurity – India's 'epidemic' problem



ROP Epidemic: Leading cause of infant blindness
2 million at risk.

47% incidence. 10% blindness

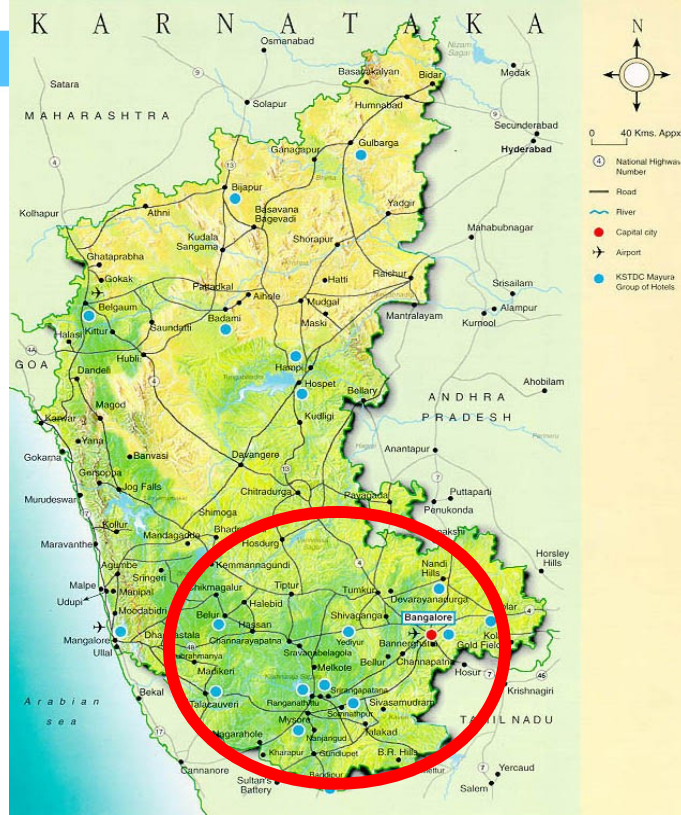
Narayana Nethralaya Initiative

KIDROP's Triple T Strategy

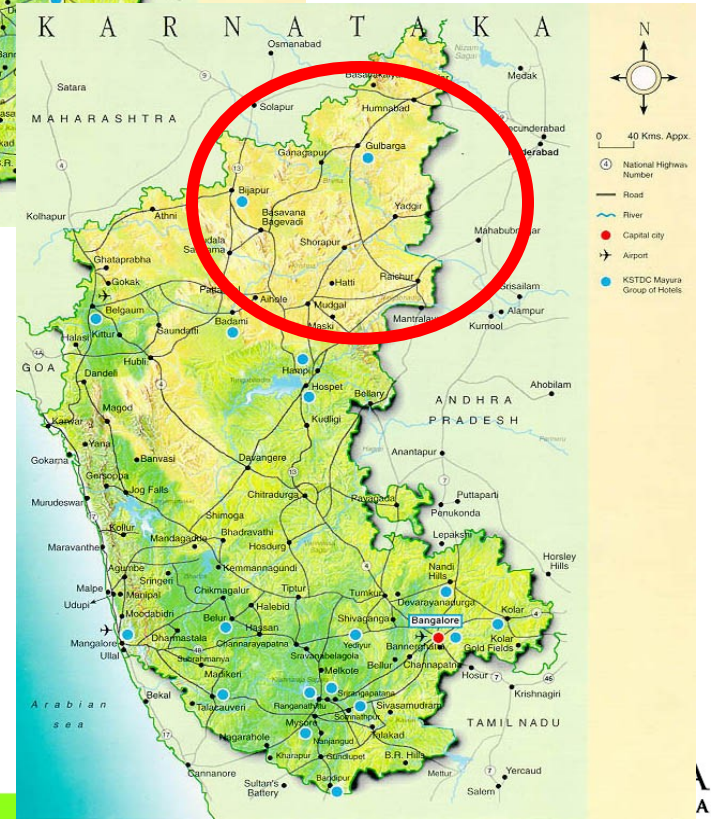
- Tele- ROP
- Train peripheral ophthalmologists (ROP fellowship)
- Talking to and Training pediatricians & gynecologists



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Other States:
Maharashtra
Gujarat
Rajasthan



Narayana Nethralaya **KIDROP** Trial (Karnataka Internet Assisted Diagnosis of **ROP**) 2007 to date

Karnataka coverage area

18 districts

74 hospitals

3

Independent
teams

Day	Zone 1	Zone 2 (NK)	Zone 3 (CK)
Mon	Mandya, Mysore, Chamrajnagar	Raichur	Davangere
Tue	Bangalore BBMP	Gulbarga	Chitradurga
Wed	Tumkur dist Hosur (TN)	Bidar	Bellary
Thu	Kolar	Bijapur	Haveri
Fri	Tumkur Pavagada	Bagalkot	Dharwad
Sat	Bangalore Urban	Koppal	Gadag



VS







First PPP in Infant Blindness in India - ROP

2.3 Crores (2009-2012)

Innovative Initiative by Govt. of Karnataka

12 districts in Karnataka – North and Central zones

- Training;
Ophthalmologists &
OA
- “Reading Site”
- Treatment
- Funding for Camera
& Laser
- Logistics : Support:
Mobilization of the
infants – screening
and treatment

TRAINING @ KIDROP





TREATMENT AT THE OUTREACH

Laser treatment & patient counseling in the Rural Outreach



Completing

5 years

Preventing Infant Blindness Using Technology & Passion

Sep 2007 - June 2012

2007 - 2012
Preventing Infant
Blindness
Using Technology
& Passion

2007 - 2012
Preventing Infant
Blindness
Using Technology
& Passion

2007 - 2012
Preventing Infant
Blindness
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& Passion

KIDROP 12 Months
(North and Central Kibera)
2007-2012

Preventing Infant
Blindness

The Journey Continues...

1. Journey Begins.....
2. India's first Retcam Shuttle
3. 1st International invited talk on ROP
4. Award from Dalai Lama
5. Tele ROP-platform established
6. World's 1st ROP App on an iPhone
7. India's 1st PPP in ROP (NRHM, Karnataka)
8. A Top 10 Medical Innovation
9. Thrombocytopenia: A new risk factor !
10. Harvard Business Review cites KIDROP
11. MEA calls KIDROP "Unique & Successful"
12. Positive Health Hero award
13. New technique of infant OCT imaging
14. Govt. teams- training begins
15. Pune team trained
16. 10,000 babies crossed !
17. Rajiv Gandhi Award for Excellence
18. IIM Ahmedabad: KIDROP case study
19. A new OCT finding in ROP: IOVS
20. North Karnataka screening starts !
21. KIDROP Facebook page launched
22. Marquis Who's Who of the World
23. NRHM makes a movie on KIDROP
24. Gujarat team trained
25. Central Karnataka equipment installed
26. 600th laser performed !

KIDROP

- 2008 : NN Initiative
- 2009 MOU with NRHM Karnataka
- 2010 : Training
- 2011 (to date) Implementation
- Totally : 23578 sessions
- 18 districts
- 614 laser procedures

Look What Else We Found!

*Clinical entities serendipitously detected on Retcam imaging
during routine ROP screening*

*To be presented at the World ROP Congress, Shanghai
October 14-16th, 2012*

Aim

- To report the spectrum of anterior and posterior segment diagnoses that were detected serendipitously during routine Retinopathy of Prematurity (ROP) screening in a one-year period.

Methods

- 2011 : Retrospective
- All infants undergoing ROP screening (*< 2000 grams and / or < 34 weeks gestation age*)
- Retcam imaging — (*Anterior segment without lens and fundus with 130 degree lens*)
- First session between 2 – 4 weeks of life
- Minimum 7 images per eye (*Modified PHOTO-ROP*)



Results

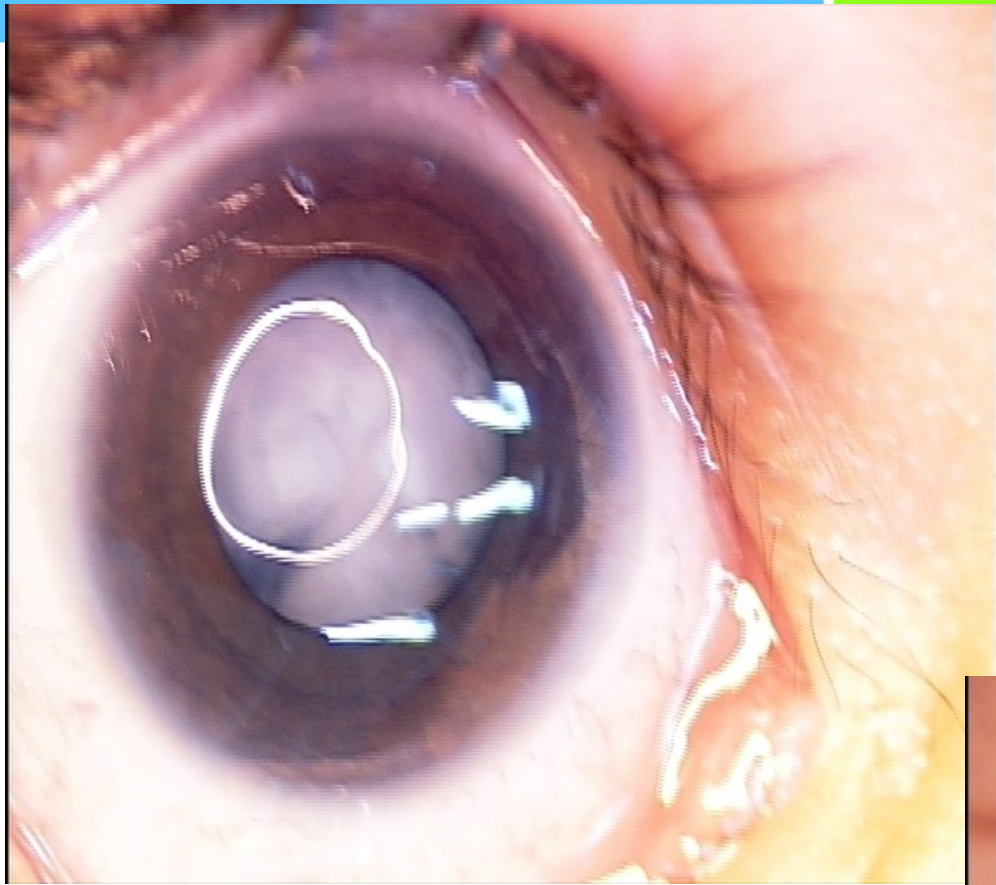
- 1450 infants
- 106 infants (7.3%) with “other diagnoses”

Distribution of diagnoses



Anterior Segment Diagnoses





45% of anterior
diagnoses were
congenital /
developmental cataracts



Posterior Segment Diagnoses

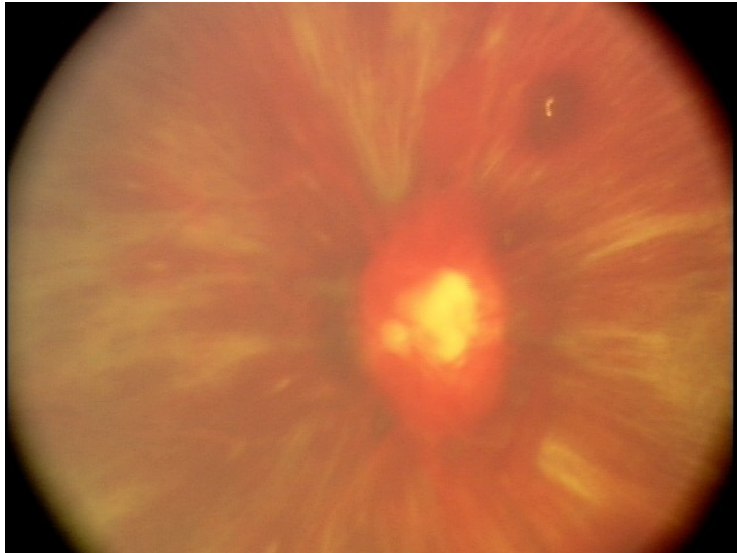


Cherry red spots OU

History of Consanguinity

STORAGE DISORDER



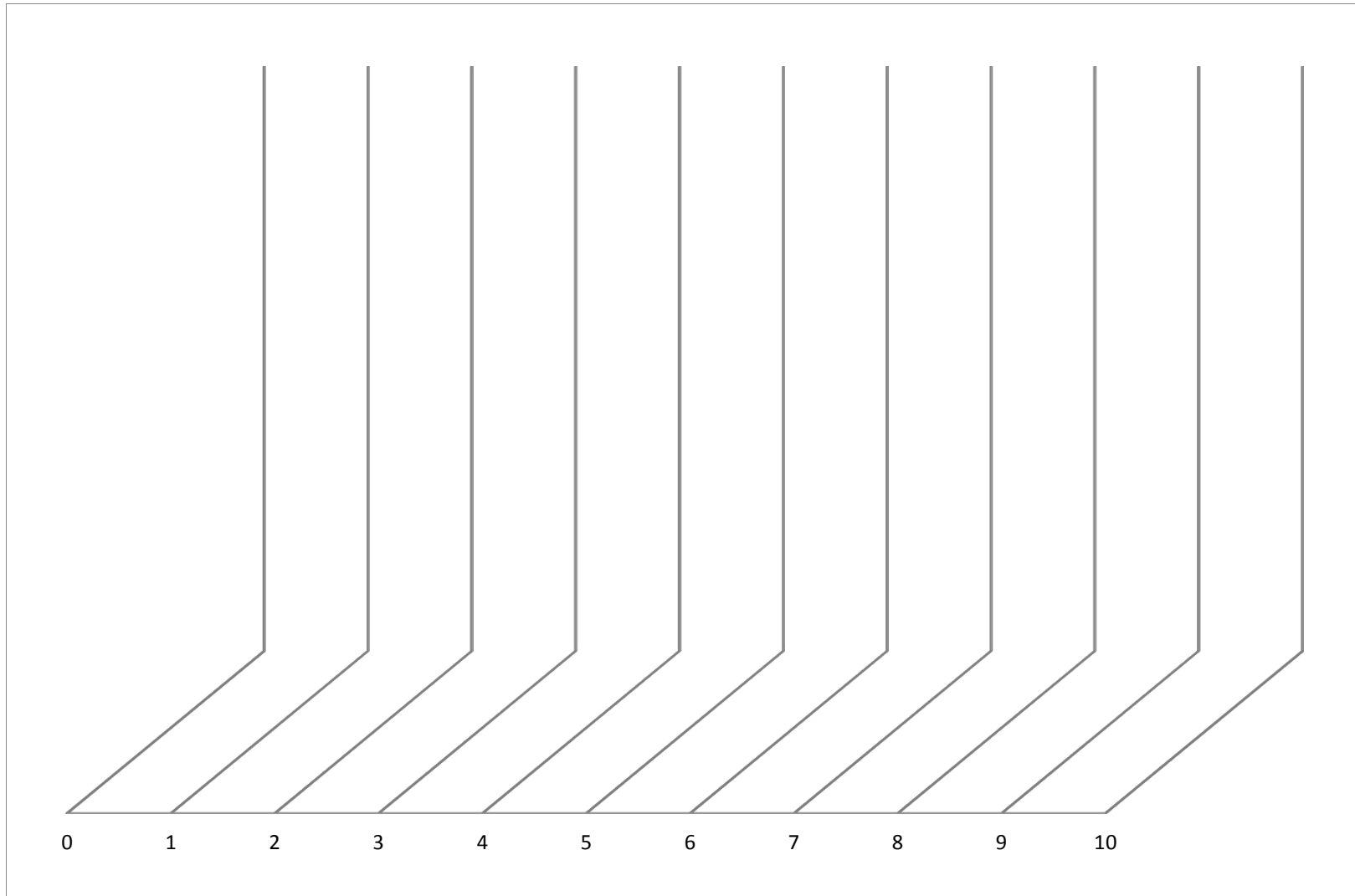


Screened for ROP

(BW 1450 grams, 33 weeks)

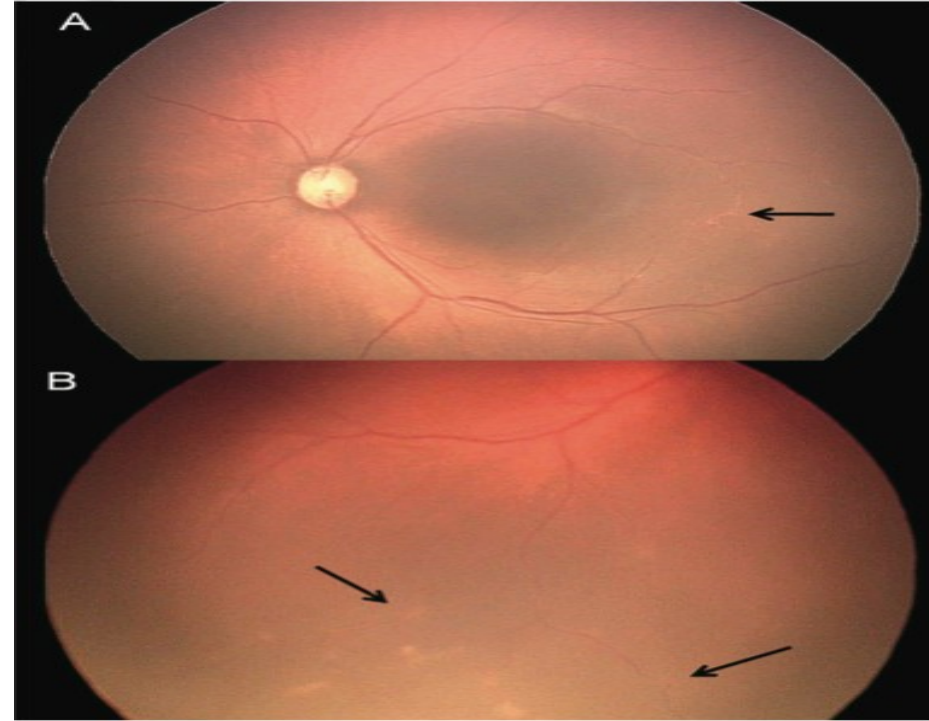
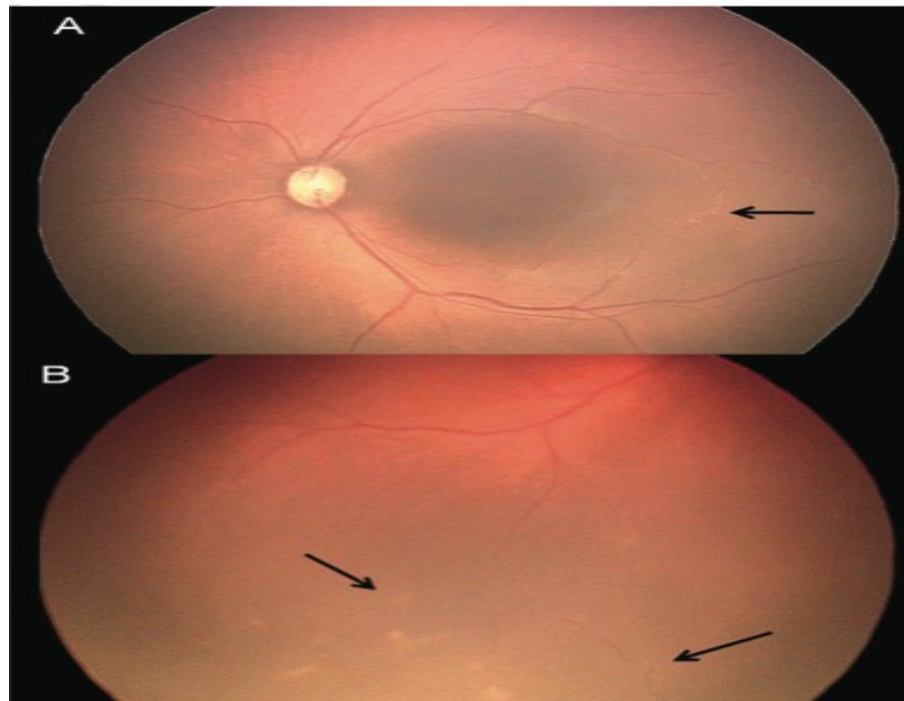
Suspected case of birth trauma

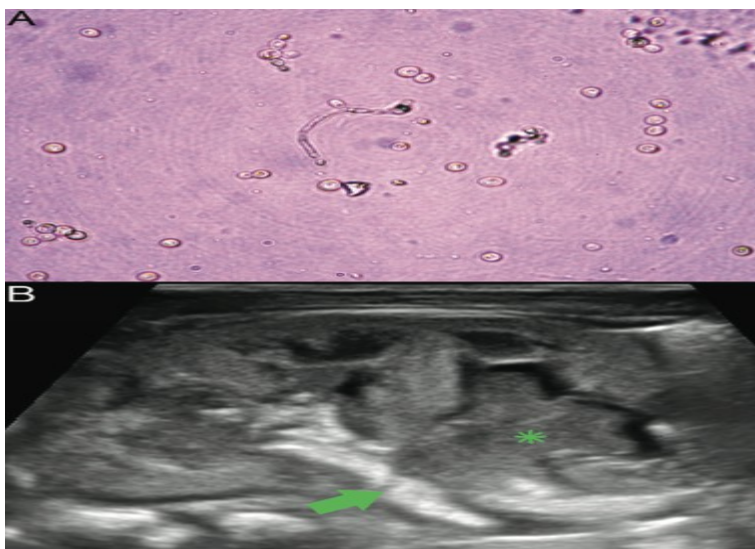
Uveitis Related Diagnoses (14 cases)



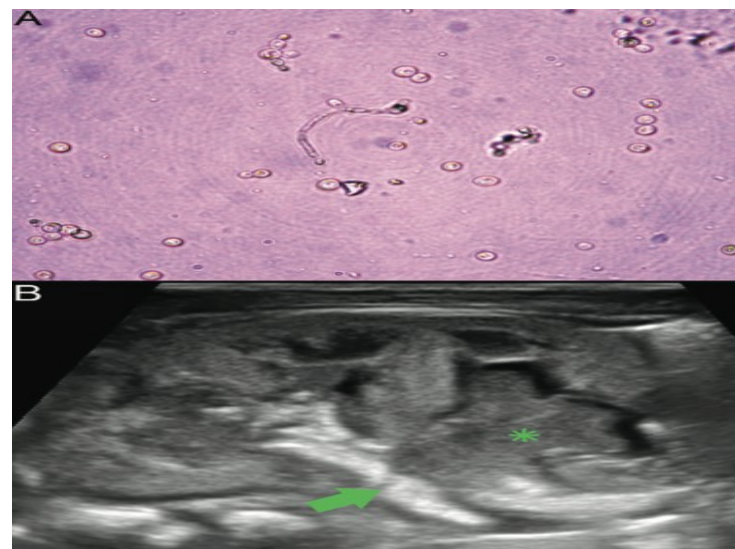
Retinal vasculitis as an early indicator of systemic candidal abscesses in a premature infant

Anand Vinekar, MD, FRCS,^a Kavitha Avadhani, MD,^a Pradeep Maralusiddappa, MD,^b
Vinay M D Prabhu, MD,^c Padmamalini Mahendradas, MD,^a and V. A. Indumathi, MD^d





Fungal hyphae grown in urine



Perinephric abscess draining into the pelvi-calayceal system

Short Report

Retinal vasculitis as an early indicator of systemic candidal abscesses in a premature infant

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J AAPOS 2011;15(1):96-97.

Serendipitous pick up of Retinoblastoma



Karnataka Universal Screening Programme KUSP

KUSP Pilot

- Government Hospital
- All babies delivered
- Sample size : 1000
- One screening within 5 days of life
- Standard protocol of imaging



KARNATAKA UNIVERSAL SCREENING PROGRAMME (KUSP)

Baby of :

Gender :

Birth Order :

Date of Birth	Birth Weight	GA	MOD
Risk Factors :			

Sl. No.	Date	Comments

ನಿಮ್ಮ ಮಗು 2 ಕಿಲೋಗಿಂತ ಕಡಿಮೆ ತೂಕ ಇದ್ದರೆ ಮಗುವಿಗೆ ಆರ್.ಟಿ.ಸಿ. ಎನ್ನುವ ಕಾಯಿಲೆ ಬರುವ ಸಾಧ್ಯತೆಗಳು ಹೆಚ್ಚು. ಸೂಕ್ತ ಸಮಯದ ನೇತ್ರತಜ್ಞರೊಡನೆ ಮಗುವನ್ನು ಅಂಥತ್ವದಿಂದ ರಕ್ಷಿಸುತ್ತದೆ.

ನಿಮ್ಮ ಮಗುವಿಗೆ ಕೆಳಕಂಡ ಯಾವುದೇ ಕಣ್ಣಿನ ಸಮಸ್ಯೆ ಇದ್ದಲ್ಲಿ ಹತ್ತಿರದ ನೇತ್ರತಜ್ಞರಲ್ಲಿ ಪರೀಕ್ಷಿಸಿ.

- ▲ ಕಣ್ಣು ಸರಿಯಾಗಿ ಕಾಣದಿರುವುದು,
- ▲ ಕಣ್ಣಿನ ಮಧ್ಯಭಾಗದಲ್ಲಿ ಬಿಳಿಯಾಗುವಿಕೆ,
- ▲ ಮೆಳ್ಳಗಣ್ಣು
- ▲ ನೀರು ಸೋರುವಿಕೆ ಇತ್ಯಾದಿ.

PEDIATRIC HELPLINE : 9980 980093

NN 1 : 121/C, Chord Road, Rajajinagar, 1st 'R' Block, Bangalore-560 010, INDIA.
Mobile : 99025 46046 (Emergency only) Ph : 91-80-66121300-1305, 1400-1404
Fax : 91-80-23377329

NN 2 : Narayana Health City (Narayana Hrudayalaya Campus), # 258/A, Bommasandra, Hosur Road, Bangalore-560 099, INDIA.
Mobile : 99028 21128 (Emergency only) Ph : 91-80-66660655-0658
Fax : 91-80-66660650

NN 3 : # 37, Castle Street, Opp. Sacred Heart Church, Ashok Nagar, Bangalore-560 025
Ph : 080-66974000-03 Fax : +91-80-66974005

E-mail : info@nnmail.org / info@narayananeethralaya.com
Website : www.narayananeethralaya.org / www.pediatricretina.org

Front

Back

Pilot results

- 256 babies
- 16 with findings (6.25%)
- Hemorrhages
- “Retinitis”



“Opportunistic counseling”
Good Eye Practice – Health education to
the parents

Using Digital images to sensitize
mothers, especially for ROP

KUSP : Is it a good idea?

- Time will tell
- Cost-utility to be worked out
- Long term analysis is required
- Looks promising !

"Light of the Eyes"

Movie on KIDROP by NRHM : May 2012

NRHM, Karnataka
presents

Light of the Eyes...

a film on KIDROP

Karnataka Internet Assisted Diagnosis of Retinopathy of Prematurity



THANK YOU

Working towards a
world without ROP
blindness*

** Video on YouTube*

Follow the KIDROP Program on
FACEBOOK

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