Current Management of Retinopathy of Prematurity in the United Kingdom

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Scan to see the guidelines

Introduction

Retinopathy of Prematurity (ROP) is a sight-threatening condition, but prompt intervention can prevent blindness. With BEAT-ROP and RAINBOW trials, anti-VEGF (vascular endothelial growth factor) has transformed the management of ROP. Despite Royal College of Ophthalmologists guidelines (2022, pictured above), there remains variation in management.

Aim

To obtain a snapshot of current management practices amongst members of the UK ROP treatment group, pertaining to treatment of threshold meeting disease, monitoring of infants post treatment and management of both reactivation and persistent avascular retina (PAR).

Methods

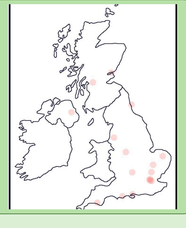
- Conducted a retrospective snapshot survey
- Created a MS forms survey
- Sent out to UK ROP treatment group



Survey Questions included:

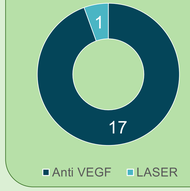
1. Geographical location and level of neonatal unit
2. 1st line treatment choice for ROP/A-ROP in Zone 1, POSTERIOR zone 2, ANTERIOR ZONE 2 – when thresholds for treatment are met
3. Treatment options available in the unit
4. Monitoring including imaging modality availability
5. Reactivation – management
6. Persistent avascular retina (PAR) - current management

18 treating units responded
17/18 regional centres
100% Level 3 NICU units



References:
https://www.rcophth.ac.uk/wp-content/uploads/2022/03/Treating-Retinopathy-of-Prematurity-in-the-UK-Guideline-Exec-Summary.pdf (date accessed 01/05/2025)

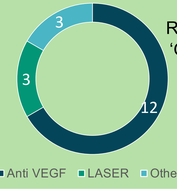
If threshold is reached for treating an infant for ROP/AP-ROP in ZONE 1, what is your 1st line treatment?



Rationale from responses;

- 'Guidelines/evidence base'
- 'delay laser'
- 'allow for more vascularization'
- 'avoid GA' , 'ease of procedure'

If threshold for treating an infant for ROP in POSTERIOR ZONE 2 is reached, what is your first line treatment?



Rationale from responses;
'Guidelines' - 7 responses
'Avoid GA'
'Allow more growth'
'Buying time'

MID ZONE 2 /BORDERLINE CASES

- 10/18 – LASER
- 1 response; 35 week cutoff
- 3 responses mentioned laser preferred if follow up concerns
- 6 responses- case by case

If threshold for treating an infant for ROP in ANTERIOR ZONE 2 is reached, what is your first line treatment?

17/18 responded LASER
1 unit monitors weekly

- 7 responses; Guidelines/evidence base
- 'Less retina to laser then happy to go for this first in older infant'`
- 'definitive treatment without the unknown systemic risk of an anti-VEGF or risk of infective endophthalmitis'
- 'less follow up' – 3 responses

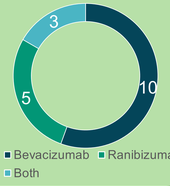
TREATMENTS AVAILABLE

All units: LASER and anti-VEGF available

Rationale:

- What is available
- 4 units using Bevacizumab responded less reactivation rate observed
- Only bevacizumab available
- 1 unit said they use Ranibizumab first, then Bevacizumab if reactivation

Anti-VEGF choice



FOLLOW-UP INTERVALS

Anti-VEGF follow up post injection
<24h : 3
24-72h : 10
1 week: 1
Other:
Next screening unless concerns- 1unit
Neonatal red reflex check at 24h, then Dr visit 5 days
Neonatal check 3 days, Dr visit 7 days
Neonatal red reflex check at 24h, then Dr visit 7 days

Laser Follow up
1 week : 17
Next screen 4-7 days : 1

POST TREATMENT MONITORING

- 13/18 responses expressed they follow RCOphth guidelines for monitoring (other responders still followed similar pattern but didn't contain word 'guideline')
- 17/18 units use indirect ophthalmoscopy
  - All also use an imaging system
    - Optos, Retcam, Panocam
- 1 unit responded they use imaging until 50 weeks then indirect, 1 unit uses imaging only until 70 weeks

Results

REACTIVATION

Variability in approaches
After reactivation following anti-VEGF;
7/18 units proceed to laser
10/18 would consider re-injection
(1 unit's response wasn't clear)

'Unable to offer laser to babies of 44wks and above'

'Preference would be for laser, unless the disease is still very posterior'

'If treatment failure - reinjection.

If reactivation and vascularisation beyond original demarcation line - laser'

'if posterior disease we treat with anti-VEGF and if anterior disease we laser'

'If young infant still and large avascular retina still zone 2 posterior then repeat injection
If older infant >46 weeks PNA (post natal age) or more anterior zone 2 then laser'

'if the reactivation is still posterior or the baby is still systemically unwell we would offer the option of a second injection'

'according to zone of ROP, if reactivation in far periphery - laser, if still within criteria for Lucentis or parental preference then Lucentis'

MANAGEMENT OF PERSISTENT AVASCULAR RETINA (PAR)

'Conservative approach if parents/carers are compliant with regular attendances, otherwise we proceed with laser to PAR if regular monitoring will not be possible'

'We usually observe PAR'

'low threshold for lasering reactivation of ROP (even if mild) if there is PAR but if there is no ROP reactivation we monitor'

10/18 adopt a conservative approach
8/18 would consider laser

'We laser if more than 2 DD of PAR'

'laser the PAR'

'5 regional treaters (of which I am one) can liaise with team to decide further treatment'

'Usually try to wait till after 46 weeks PNA as they are less risky for anaesthetic unless need to laser earlier'

'the only cases of RD we have had in our unit are post laser of PAR as such we are now much more cautious about repeat laser if no neovascularisation'

Discussion

- Consensus on treatment of **posterior** disease
- Variation in anti- VEGF agent used with responders highlighting their rationale
- Highlights different approaches in the management of reactivation of disease following anti- VEGF treatment
- Demonstrated that there is variability in the management of PAR
- That some of the rationale for management decisions is logistical
- Considerations regarding follow up and parental choice, which may also guide management decisions

Limitations:
Small survey
More demographic data needed, numbers treated in units
Partial qualitative data

Conclusion

This survey provides a snapshot of current management of ROP in the UK and demonstrates some of the variation in approaches.

There is a need for further studies and consensus on the management of reactivation of ROP post intravitreal injection and PAR.