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1. Dr Pihlblad: Do you do a single in-person exam after discharge? or do you go into the NICU?

MP: They come to clinic and need to travel for the in person exam, which may not work for more remote telemedicine sites.

2. Who should inject anti VEGF - ped ophth or vitreoretinal?

MP: I think it depends on the training. Many ophthalmology residents graduating will have performed 100s of intravitreal injections before graduating and then more training in ped's fellowship. As a pediatric ophthalmologist, I do injections, but feel I have had the proper training to do so.

AZ: Agree with Dr MP

MTP: Also agree with Dr MP. I personally as pediatric ophthalmologist also inject.

ADM: I think that anti-VEGF should be performed by a ROP specialist trained to do injections but also trained to follow-up these patients and detect and manage complications.

MD: I agree with view expressed by all the panellist.

3. What about the neonatologist injecting if all evaluations by telemed?

MP: I would not recommend.

AZ: I would not recommend.

MTP: I agree with MP and AZ.

ADM: I would not recommend

MD: I would never recommend.

4. What is ratio of Zone I and post Zone II requiring treatment to all requiring treatment? Why is a rare disease circa 2000 now so frequent?

MP: My experience is different than some of the other panellists. I would say the minority of treatments are Zone I disease in my practice.

AZ: Approximately 3% in my unit in Rio de Janeiro. The reason aggressive ROP cases are increasing in many developing countries is probably the combination of increased survival of preterm babies and inadequate quality of neonatal care.

MTP: In Slovenia APROP represented 15% of treated babies in 2020.

ADM: APROP represent a minority of cases in my practice.

MD: 30% to 40% would be APROP for treatment and the reason is as expressed by AZ above.

5. I injected 1 baby with Avastin for APROP. After a month the condition was the same. What should be done next? Whether to re inject? Laser is not possible due to poor pupil dilation.

MP: It would depend on if any retina elevation and would want to know the initial dose, 0.625mg? Any issues with the injection to make sure it was administered? The small volume can be difficult to measure depending on the syringe type. If unable to dilate well for laser, would consider another injection although could consider vitreoretinal opinion.

MTP: I agree with MP. If the disease is so posteriorly that it can be judged through narrow pupil it is serious enough to perform another injection and perhaps VR surgery?

ADM: I agree, another injection but maybe VR surgery.

MD: What was the situation after one week of injection. Injection must have worked in this baby.

Otherwise, it would have progressed and not remained same after one month. Laser can also be performed in such a case as pupil will dilate due to mechanical stretching during scleral depression.

6. To the whole panel: Should someone want to start an ROP tele-med program, What are the steps to go about this?

MP: I would start with a camera and start using it in the NICU that you are currently rounding. You could start being in person for all the exam to make sure the photos are consistent with the exams. Then start performing less confirmation exams as long as the photos are correlating well as a start. Below is a useful reference.

Walter M. Fierson, Antonio Capone Jr et al., Telemedicine for Evaluation of Retinopathy of Prematurity. PEDIATRICS January 2015, 135(1).

AZ: Besides Dr MP's above advice, define a protocol for acquiring and selecting images, define who should be trained to take the photos and follow them up closely until confident. Also, define/train who will read the images.

MTP: I agree with MP and AZ, but also have learned in this webinar that PROTOCOL is mandatory.

ADM: I agree with my colleagues

MD: I agree with MP and AZ.

7. Can we do tele screening with a smartphone?

MP: I have seen some photos, examples and have attempted myself but I have not seen one good enough yet that I would feel comfortable using or telemedicine screening, but I think this will eventually be possible.

AZ: I have no personal experience but other groups are developing expertise.

Goyal A, Gopalakrishnan M, Anantharaman G, Chandrashekhara DP, Thachil T, Sharma A. Smartphone guided wide-field imaging for retinopathy of prematurity in neonatal intensive care unit - a Smart ROP (SROP) initiative. Indian J Ophthalmol. 2019;67(6):840-845. doi:10.4103/ijo.IJO\_1177\_18  
<https://iovs.arvojournals.org/article.aspx?articleid=2557992>

MTP: no personal experiences. I have troubles getting decent fundus photo with filmic app and attached clip-camera to my smartphone in an older child, so in premies it must be even more difficult.

ADM: I have no personal experience

MD: It can be used for documentation of ROP but difficult to do tele screening with this device. Smart phone is used for transfer of images to ROP expert. It requires expertise of experienced ROP specialist to take these images with smart phone. He may himself perform ROP screening with indirect ophthalmoscope.

8. What is the training protocol for nurses?

MP: In person, hands-on demonstration and supervision with the pediatric ophthalmologist initially, and then continued feedback through the telemedicine program.

MTP: I agree

MD: Hands on demonstration and supervision by ROP specialist, trained nurse or trained technician. Certification needs to be done before permitting independent image acquisition and sending them to the expert.

9. Drs. Dogra & Daruich-Matet: Do you use non doctors for screening? If so, how are they trained?

MP: I do not use them.

ADM: We have started to training orthoptists for ROP screening, in person, hands-on demonstration and supervision by ROP specialist ophthalmologist.

MD: I agree with ADM. Dr Anand Vinekar has a certification course for trained technician who perform all tele screening of ROP in multiple neonatal centres in underserved areas throughout the state.

The KIDROP model of combining strategies for providing retinopathy of prematurity screening in underserved areas in India using wide-field imaging, tele-medicine, non-physician graders and smart phone reporting.

Vinekar A, Gilbert C, Dogra M, Kurian M, Shainesh G, Shetty B, Bauer N. Indian J Ophthalmol. 2014 Jan;62(1):41-9.

10. Globally babies can't be "transferred" for treatment. What happens then if screening by local neonatology team is being reviewed by tele-med? How is training done for injections?

MP: I think treatment capabilities need to be established before starting a telemedicine program. If you can detect treatment requiring ROP, but not able to treat, then the point of the telemedicine program is lost.

Training for injections is often done in residency and then specifically for ROP in pediatric ophthalmology fellowship, but could be mentored by colleagues with experience.

AZ: Agree that transfer for treatment is not ideal. Most ROP programs in Rio de Janeiro are based on treatment at the unit by a trained ophthalmologist. I would be very concerned to perform injections and not having access to and an eye department facility.

MTP: I agree with MP and AZ. Combined approach telemedicine + treatment plan should be targeted.

ADM: I agree that combined approach telemedicine and treatment plan (including transfer or not) should be targeted.

MD: I agree with MP and AZ. Screening is performed in multiple centres but treatment facilities and trained ROP specialists are not available everywhere. In India either babies are transferred or trained ROP specialist is going to these neonatal centres for treatment.