Simultaneous reconstruction of anterior and posterior segment in patient after blunt trauma

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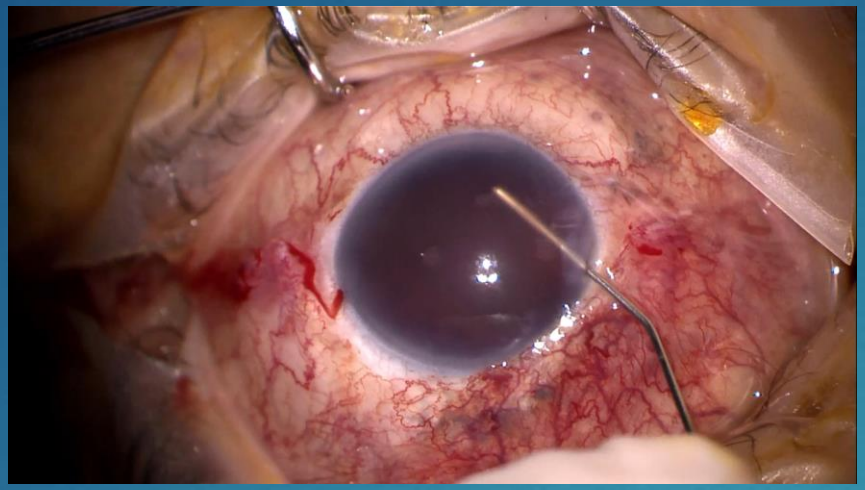
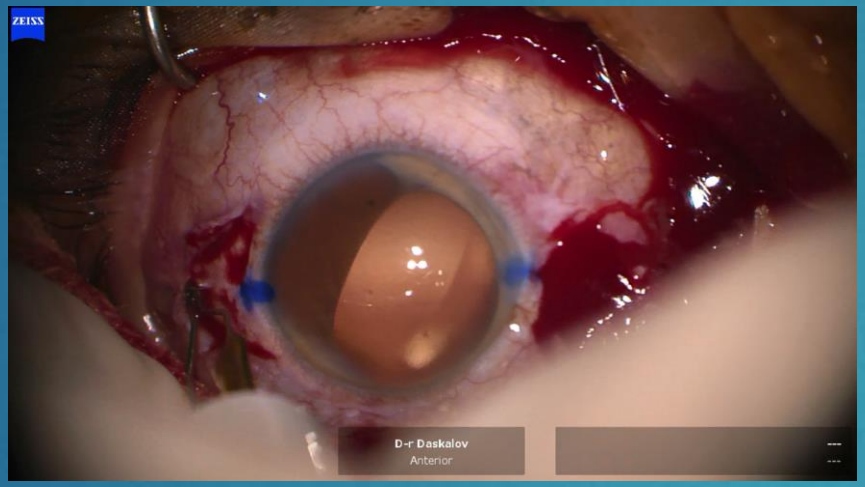
SOHAT "PENTAGRAM"

SOFIA, BULGARIA

Introduction

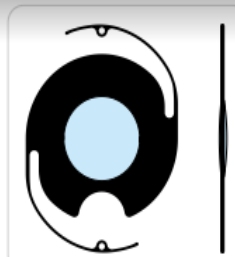
- A 40 – year old female patient after blunt trauma, leading to lamellar laceration.
- The patient has gone through primary surgery treatment in other clinic. BCVA was PPLC/color+/
- The patient was in aphakic status, total hyphema and haemophthalmus, traumatic aniridia and total retinal detachment.
- Primary pars plana vitrectomy was done with silicone oil tamponade.
- The BCVA was 0.05 with correction of +5.00 dpt .
- Six months later inferior retinal detachment with subretinal proliferations were found.





Methods

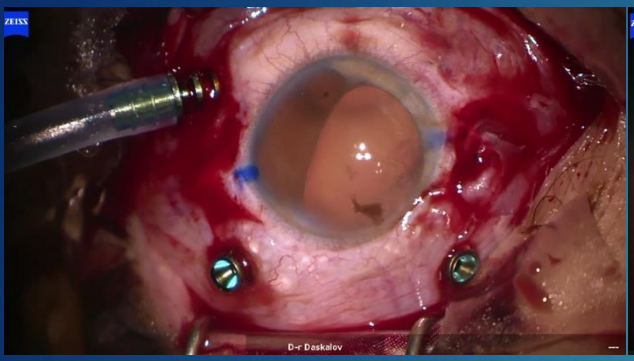
- Combined surgery was planned.
- We decided to use Morcher aniridia IOL with Ando iridectomy, fixated to the sclera.
- The IOL was calculated using B scan-biometry, corneal topography and Barret formula software.
- During the surgery vitrectomy with PVR management techniques were done, ILM peeling, endolaser and silicone tamponade.
- The IOL was fixed to the sclera through scleral flaps.

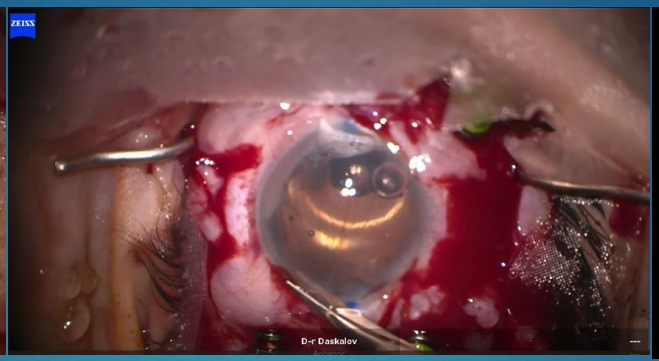


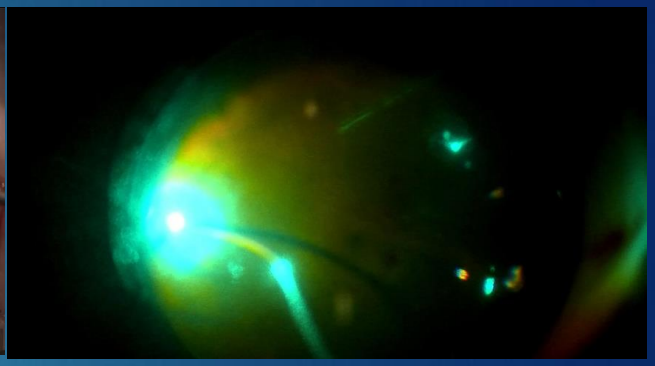
ANIRIDIA IOL

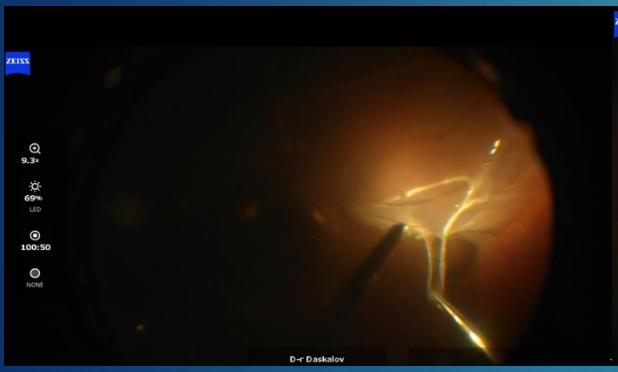
	CMD 6781
Total Diameter	13.5 mm
Optic Diameter	5.0 mm
Position	Sulcus
Fixation	We recommend the use of 9-0 double armed prolene sutures with spatula needles.
Haptic	0°
Diaphragm	5.0 – 10.0 mm
Theoretical Standard Diopter	22.0 D
Theoretical A-Con. (optical)	118.7 | Scleral sutured = 119.6
Theoretical ACD (optical)	5.37 mm | Scleral sutured = 5.90 mm
Material	Optic: CLEAR PMMA | Diaphragm: BLACK PEMA
Filter	UV-Filter
Refractive Index Optic	1.49
Incision	> 10.0 mm
Features	Option for scleral fixation. Opening in the diaphragm (1.5 – 3.0 mm) for the injection of vitreous body substitutes.

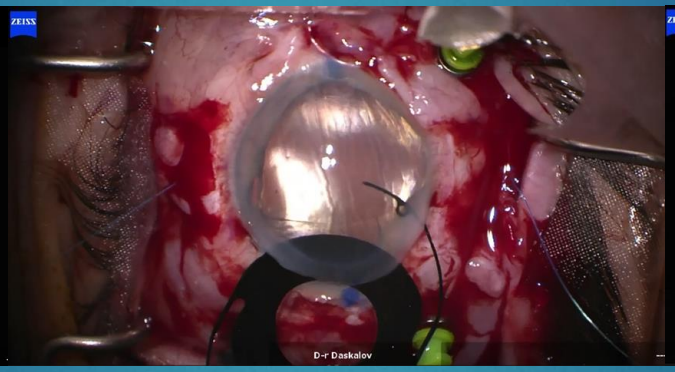
The Findings

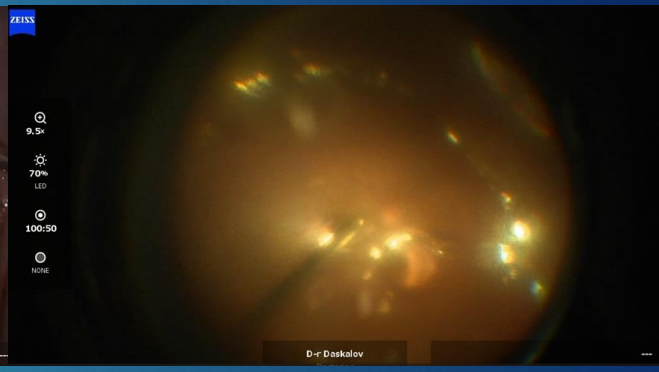


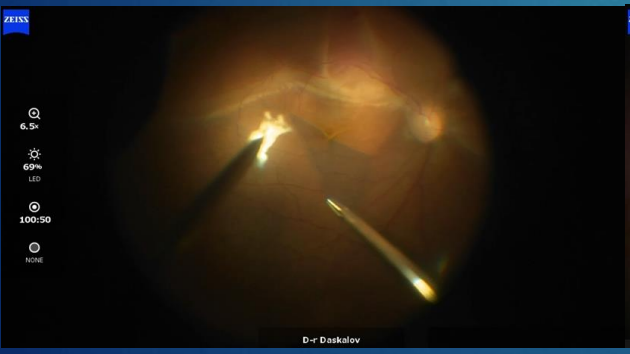


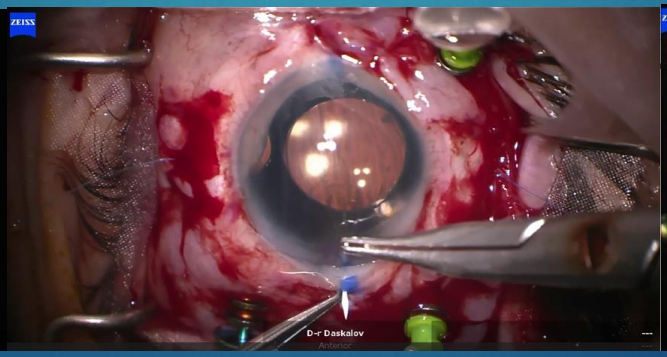


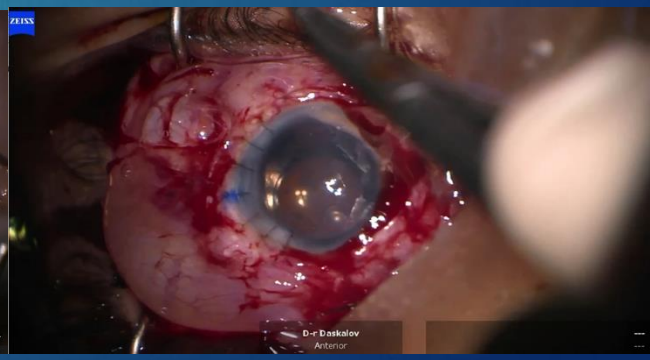




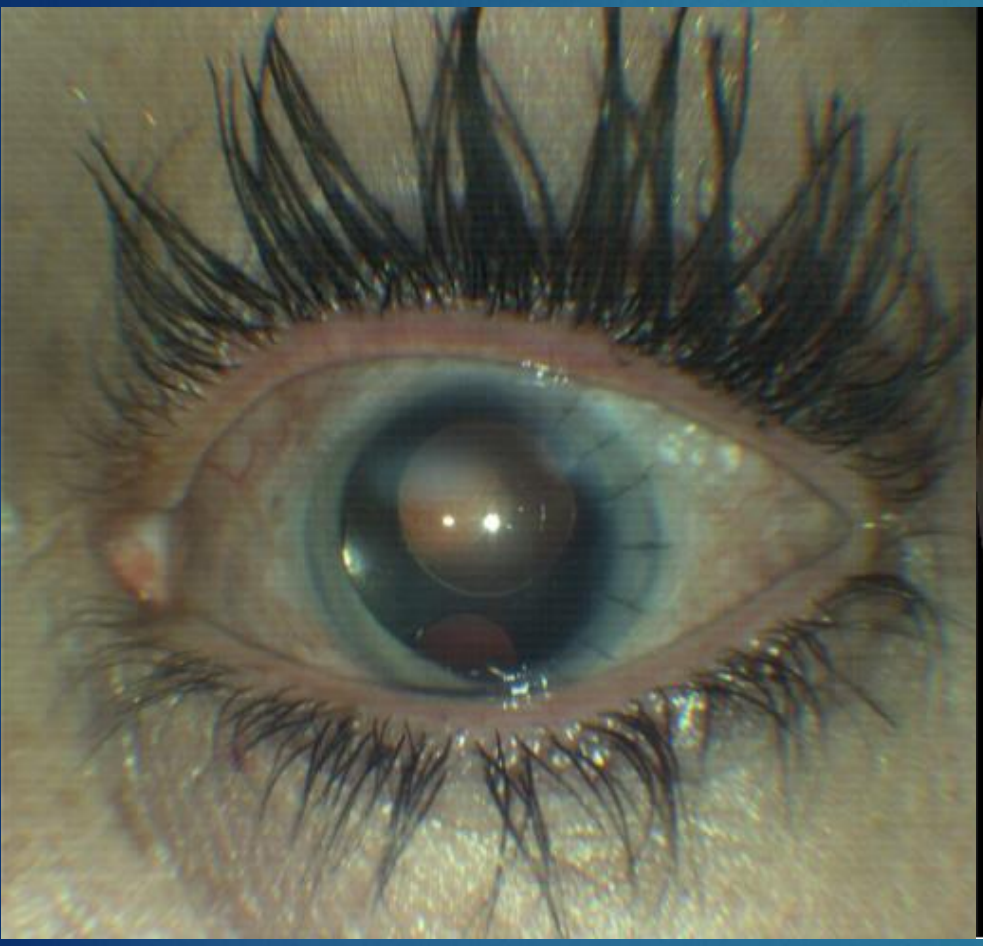


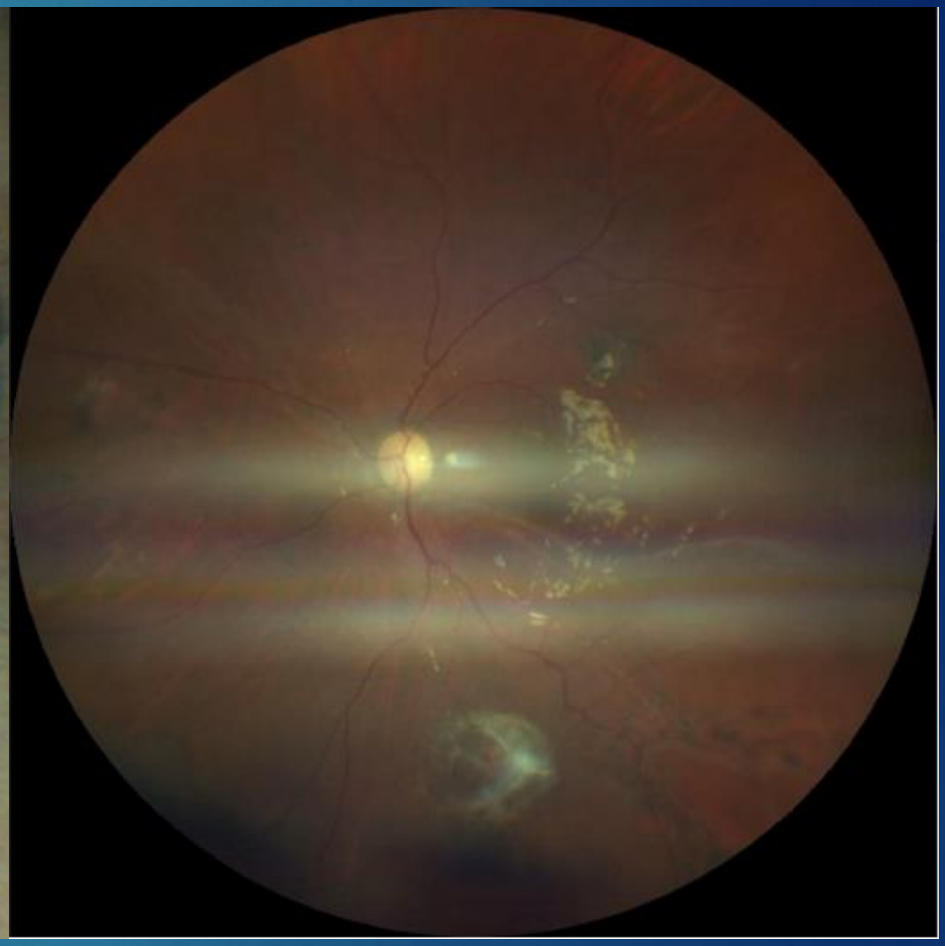






Results





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Two Cases of Peripheral Pigmentary Retinopathy in a Korean Family Patients with Danon Disease

(2024 EVRS Poster)

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Introduction

- To report two cases of peripheral pigmentary retinopathy observed in a family with Danon disease, a rare genetic disorder caused by a mutation in lysosomal associated membrane protein 2 (LAMP2).

Methods

- The patients were analyzed retrospectively by referring to medical records.

Results

- A 48-year-old woman presented with photopsia. The patient had received a heart transplant for dilated cardiomyopathy and was found to have the c.928G>A mutation on LAMP2 gene testing due to a family history. The patient and her two daughters were found to have the same genetic mutation.
- Those who underwent ophthalmic examination, the patient and one daughter, exhibited diffuse salt and peppered pigmentation bilaterally. Optical coherence tomography revealed drusen and drusenoid retinal pigment epithelial detachment in both eyes of the patient, but no other significant findings. Fluorescein angiography showed mottled hyperfluorescence due to retinal pigment epithelial atrophy and pigment clumping, with no significant changes in the macula.
- One patient showed no progression of visual impairment in vision or expansion of pigment lesions over four years.

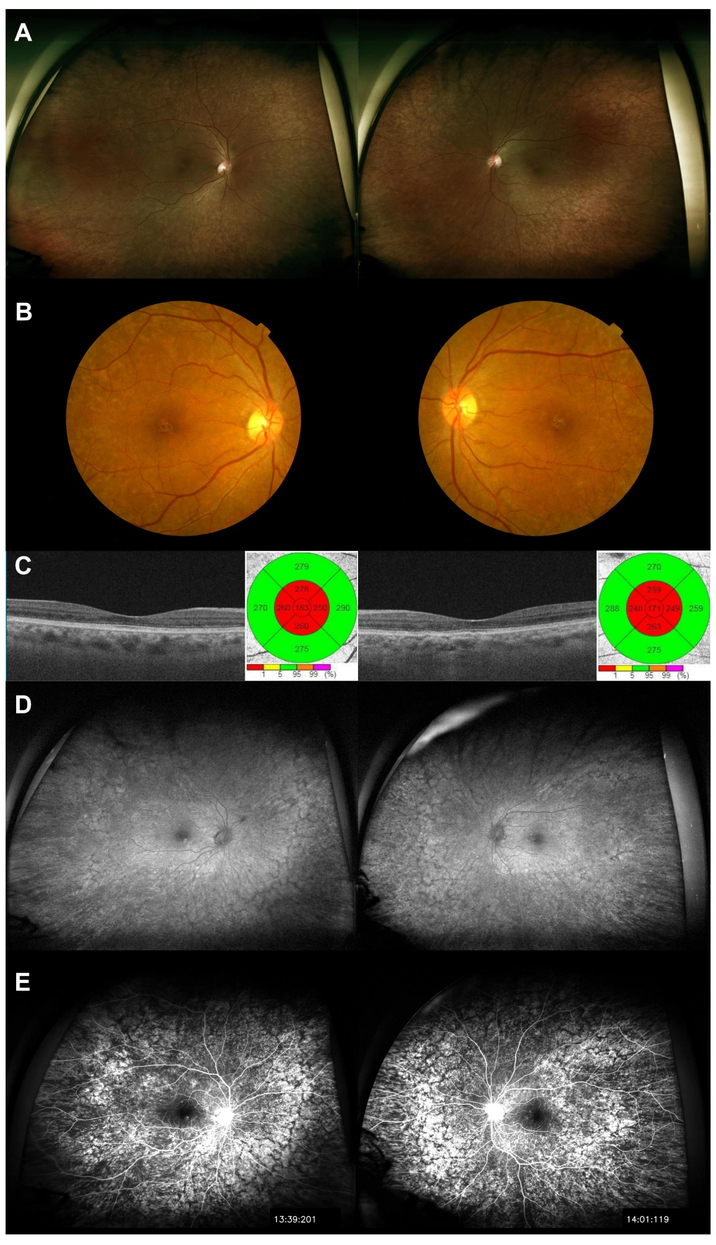

Figure 1. Pigmentary retinopathy associated with Danon disease in patient 1 (48-year-old female). (A) Ultra-widefield fundus photographs showed peripheral pigmentary retinopathy with diffuse salt and peppered pigmentations in both eyes. (B) In conventional fundus photography, drusen were observed, but there was no foveal pigment infiltration in either eye. (C) Optical coherence tomography showed drusen and drusenoid retinal pigment epithelial detachment in both eyes, with no other specific findings. The retinal thickness of the fovea and pararafovea has decreased in both eyes. (D) In autofluorescence fundus imaging, there were extensive scattered hyperfluorescent and hypofluorescent patterns in the periphery. (E) Fluorescein angiography revealed hypofluorescence corresponding to the retinal pigmentary lesions and hyperfluorescence of window defects due to retinal pigment epithelial atrophy.

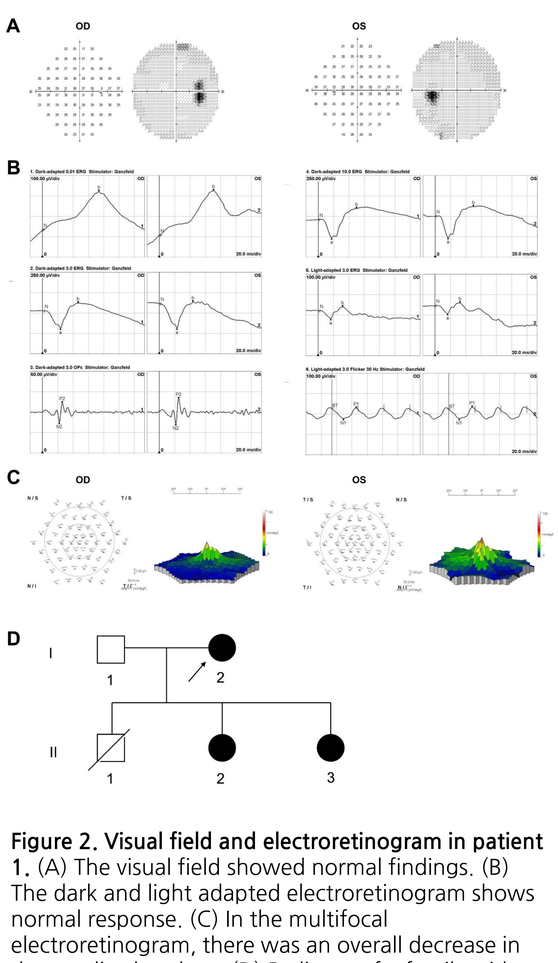

Figure 2. Visual field and electroretinogram in patient 1. (A) The visual field showed normal findings. (B) The dark and light adapted electroretinogram shows normal response. (C) In the multifocal electroretinogram, there was an overall decrease in the amplitude values. (D) Pedigree of a family with Danon disease. The arrow indicated the proband.

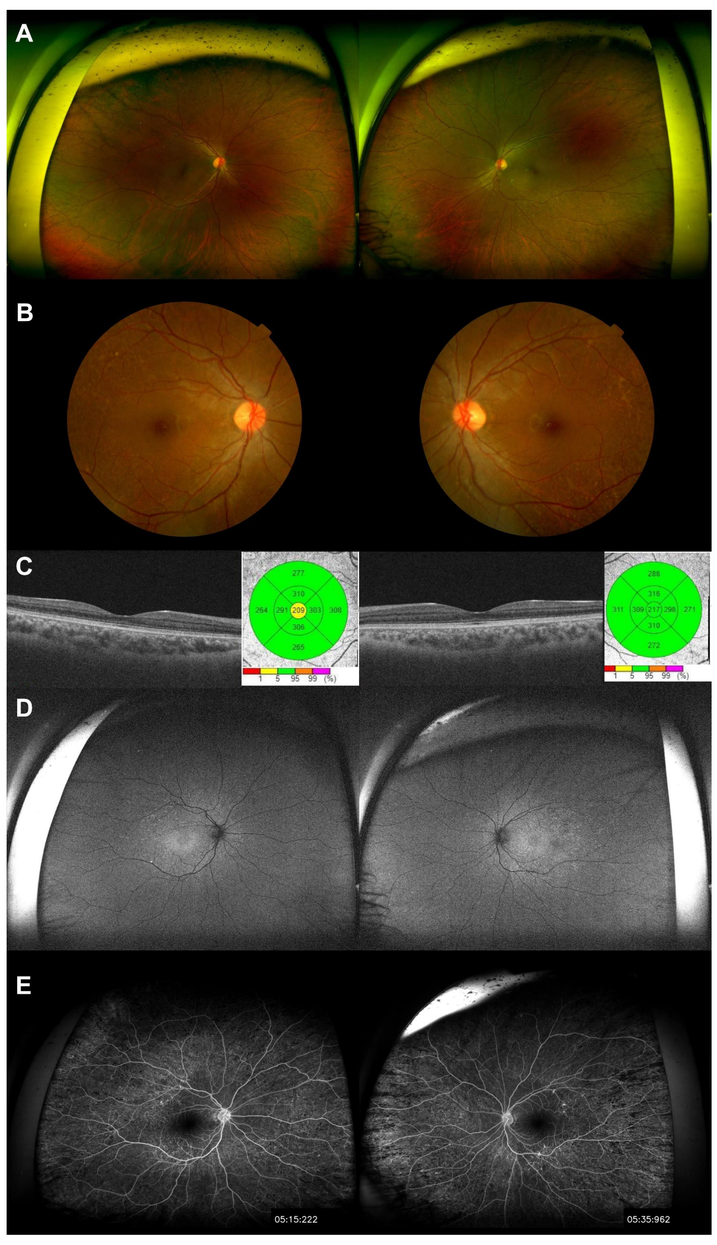

Figure 3. Peripheral retinopathy associated with Danon disease in patient 2 (26-year-old female). (A) Ultra-widefield fundus photographs showed peripheral pigmentary retinopathy with diffuse salt and peppered pigmentations in both eyes. (B) In conventional fundus photography, no pigment infiltration was observed in the macular area. (C) Optical coherence tomography showed unremarkable findings. But the mean central foveal thickness was slightly decreased compared to normal healthy eyes. (D) In autofluorescence fundus imaging, there were scattered hyperfluorescent and hypofluorescent patterns in the periphery. (E) Fluorescein angiography revealed hypofluorescence corresponding to the retinal pigmentary lesions and hyperfluorescence of window defects due to retinal pigment epithelial atrophy.

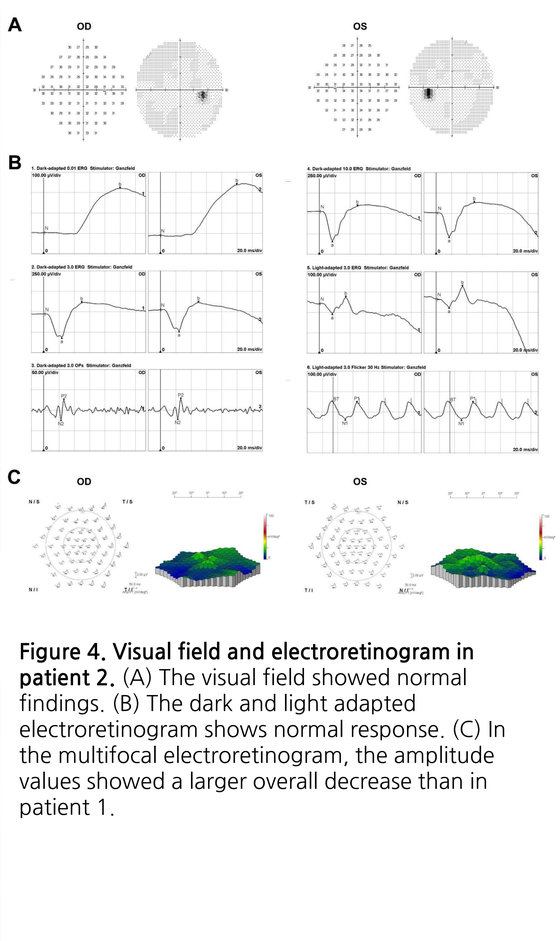

Figure 4. Visual field and electroretinogram in patient 2. (A) The visual field showed normal findings. (B) The dark and light adapted electroretinogram shows normal response. (C) In the multifocal electroretinogram, the amplitude values showed a larger overall decrease than in patient 1.

Conclusions

- Patients with Danon disease may show atypical peripheral retinal pigmentary degeneration along with cardiomyopathy, and in this case, ophthalmic findings tended to be stable for the long term.

Conflicts of Interest: The authors have no conflicts to disclose.

DETERMINATION OF APELIN LEVELS IN BLOOD AND OCULAR FLUIDS IN AGE-RELATED MACULAR DEGENERATION

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INTRODUCTION

In developed countries, one of the significant causes of vision loss in individuals aged 65 and above is age-related macular degeneration (AMD) (1). Vascular endothelial growth factor (VEGF) responsible for angiogenesis in the pathogenesis of wet-type AMD and the current gold standard treatment is intravitreal anti-VEGF injection (2). Apelin is a peptide adipokine that acts by binding to the G protein-coupled receptor apelin receptor (APJ) as an endogenous ligand (3). Studies have shown that the apelin-APJ system may contribute to angiogenesis in the pathogenesis of AMD and that this occurs independently of the VEGF system (4).

The aim of this study is to examine the levels of apelin, apelin receptor, VEGF-A, and VEGFR-2/Fetal liver kinase 1 (Flk-1) molecules in the serum and vitreous of patients with AMD, which we believe contributes to the development of the disease and to determine whether these molecules play a role in the development of the disease.

METHODS

Our study was prospective and interventional. Nineteen patients diagnosed with neovascular AMD, who had not previously received intravitreal anti-VEGF injections or had a wash-out period of at least 4 months since the last injection, and who had SMH requiring surgery were included. 17 control patients without AMD but with other retinal pathologies (macular hole, epiretinal membrane) and/or cataract requiring vitreoretinal surgery were enrolled in the study.

Angiogenesis biomarkers (Apelin, Apelin receptor, VEGF-A, VEGFR-2/Flk1) in blood and vitreous samples were analyzed using the ELISA method.

- Exclusion Criteria:

✓ Individuals with less than 6 months of follow-up
✓ Those who received any intravitreal anti-VEGF agents within the last 4 months
✓ Individuals with a history of retinal vascular diseases (retinal artery occlusion, retinal vein occlusion, diabetic retinopathy), ocular travma, uveitis
✓ Patients with autoimmune diseases, degenerative myopia, corneal opacities or mature cataracts that would interfere with retinal monitoring, vitreous hemorrhage

FINDINGS

There were no significant differences in age and gender between the patient and control groups (p=0.088, p=0.955). No significant difference was found in serum apelin levels between the groups (p=0.531). However, the vitreous apelin level in the patient group was significantly higher than that in the control group (p=0.03).

There were no significant differences in serum apelin receptor level and vitreous apelin receptor level between the group s (p=0.271, p=0.802). While the serum VEGF-A level in the patient group was higher than that in the control group, the difference was not statistically different (p=0.346).

The vitreous VEGF-A level in the patient group was significantly higher than that in the control group (p=0.028). There were no significant differences in serum VEGFR-2 level and vitreous VEGFR-2 level between the groups (p=0.639, p=0.452). No correlation was found between apelin and VEGF-A levels in both serum and vitreous. After intravitreal bevacizumab injection, serum apelin level and VEGF-A level were significantly lower when compared to pre-injection levels in the patient group (p=0.041, p=0.017). There were no significant differences in serum apelin receptor and VEGFR-2 levels between pre and post-injection (p=0.496, p=0.427).

RESULTS

There was no significant difference in serum apelin and VEGF-A levels between neovascular AMD and the control group; however, the significant difference in vitreous levels suggests the potential autocrine activity of cytokines and the role of apelin in angiogenesis, in addition to VEGF-A. The lack of correlation between serum and vitreous levels of apelin and VEGF-A in our study supports the notion that apelin may act independently of VEGF-A.

The significant decrease in serum apelin and VEGF-A levels after intravitreal anti-VEGF injection indicates the systemic effectiveness of intravitreal injection and that both VEGF-A and apelin are similarly affected by anti-VEGF treatment. The significant decrease in serum VEGF-A and apelin levels following intravitreal bevacizumab injection indicates that the local treatment also has a systemic effect on apelin (side effect).

Our study stands out as the first investigating the vitreous apelin levels in patients with neovascular AMD. The Apelin-APJ system could be a potential therapeutic target to treat CNV in patients with inadequate response to intravitreal anti-VEGF therapy. We believe that further studies on angiogenesis biomarkers in a larger cohort will contribute to the development of novel treatments in the management of AMD.

REFERENCES

1. Friedman DS, O'Colmain BJ, Muñoz B, Tomany SC, McCarty C, de Jong PT, et al. Prevalence of age-related macular degeneration in the United States. Arch Ophthalmol. 2004;122(4):564-72.
2. Shibuya M. Vascular endothelial growth factor and its receptor system: physiological functions in angiogenesis and pathological roles in various diseases. J Biochem. 2013;153(1):13-9.
3. Galanth C, Hus-Citharel A, Li B, Llorens-Cortès C. Apelin in the control of body fluid homeostasis and cardiovascular functions. Curr Pharm Des. 2012;18(6):789-98.
4. Hara C, Kasai A, Gomi F, Satooka T, Sakimoto S, Nakai K, et al. Laser-induced choroidal neovascularization in mice attenuated by deficiency in the apelin-APJ system. Invest Ophthalmol Vis Sci. 2013;54(6):4321-9.

Postoperative Refractive Outcomes in Eyes Undergoing Phacovitrectomy Surgery for Epiretinal Membrane.

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INTRODUCTION

The anatomical results of phacovitrectomy for epiretinal membrane (ERM) and concurrent cataracts are equivalent to sequential surgery[1]. However, some studies report a postoperative myopic refractive error[2 3] and proposed various hypotheses but the cause remains highly debated. Hypotheses include a thicker retina preoperatively[4], forward displacement of the capsular bag and IOL caused by the buoyancy force of intraocular gas tamponade[2], or a postoperative change in the ACD and effective lens position (ELP)[5].

We hypothesised the myopic shift/error is caused by misidentification of the true RPE peak during axial length (AL) acquisition. This is due to the interference from the ERM/retinal surface interface being anterior to the RPE and creating an intense anterior peak on the Ascan, as well as a posterior peak at the RPE. The anterior peak may be mistaken as the true RPE by the biometer, resulting in a pseudo-short AL, an overestimation of the IOL power and ultimately a myopic refractive error. It is important to note that a 0.1 mm discrepancy in AL equates to a 0.27 D postoperative refractive error[6].

Optical biometers detect a signal from both the retinal surface and the RPE[7], however it is built on the assumption of normal macula anatomy. To improve our understanding of the effect of the ERM anterior peak, we compared a normal foveal A-scan profile with that of cases of a full thickness macula hole (FTMH), ERM without significant foveal involvement and foveal involving ERM.

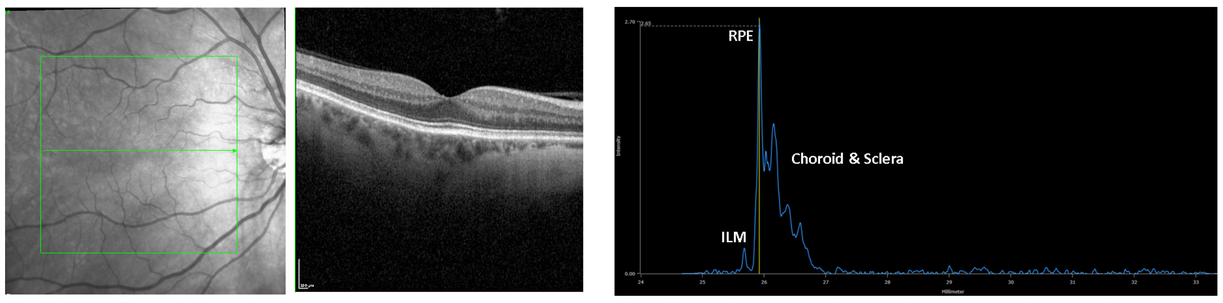

Figure 1: Normal macula and Ascan profile with small anterior ILM peak(Heidelberg Spectralis, Heidelberg Germany).

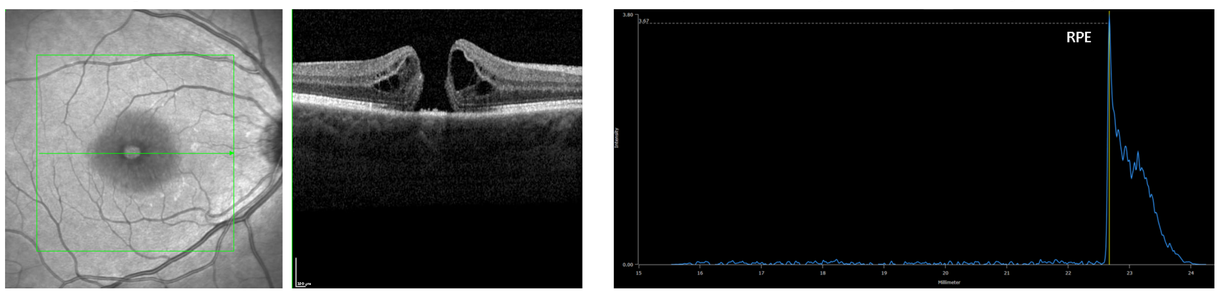

Figure 2: FTMH showing isolated RPE peak (Heidelberg Spectralis, Heidelberg Germany).

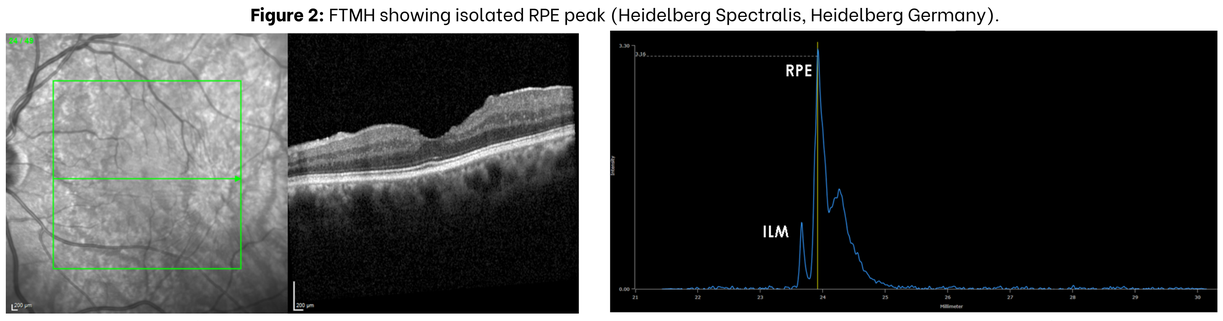

Figure 3: Extra-foveal ERM with slightly intense ILM peak (Heidelberg Spectralis, Heidelberg Germany).

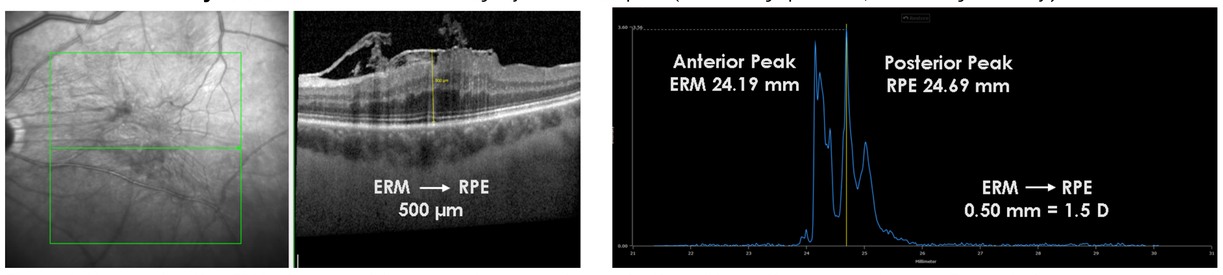

Figure 4: Hyper reflective ERM with lose of foveal contour and disorganisation of the retinal layers. A-scan: The anterior peak measures at 24.19 mm and the posterior measures at 24.69 mm. The difference in peaks is 0.50 mm, equivalent to the 500 µm distance between ERM and RPE measured on the SD-OCT image, confirming that the true RPE is the posterior peak. The difference is equivalent to a 1.5 D refractive error (Heidelberg Spectralis, Heidelberg Germany).

AIM

To audit the refractive outcomes of patients undergoing phacovitrectomy for ERM and concurrent cataracts utilising three different protocols based on the instrument used to i) acquire the preoperative biometry data and ii) the protocol applied to determine the true posterior (RPE) peak used for IOL power calculation and selection.

- **Protocol 1:** Zeiss IOL Master 500, posterior peaks were not interrogated to determine the true RPE peak and the axial length was determined by the internal protocol for IOL calculation;
- **Protocol 2:** IOL Master 500, posterior peaks were interrogated to manually determine the true RPE peak for the final axial length and IOL calculation;
- **Protocol 3:** Heidelberg Anterion, posterior peaks were interrogated to determine the true RPE peak for final axial length and IOL calculation.

The primary outcomes were refractive Predictive Error (PE) and Mean Absolute Error (MAE) expressed as the spherical equivalent (dioptres, D).

MATERIALS AND METHODS

Setting and patients: Single centre retrospective cohort study included eyes of patients aged 18 or older who had undergone phacovitrectomy (between January 2018 and December 2022) for a visually significant ERM and progressive lenticular opacities, by one experienced vitreoretinal surgeon. Pseudophakic patients or those with co-existing ocular conditions were excluded. Ethics approval received from the Human Ethics Committee, La Trobe University (Approval number: 22355).

Clinical assessment: Clinical measures were performed by certified orthoptists. BCVA was measured using an electronic chart under normal testing conditions and recorded in the number of ETDRS letters (LCD Frey CP-400). Spectral-domain optical coherence tomography (SD-OCT) (Heidelberg Spectralis, Heidgelberg Germany) 49-line macula scan and multi-colour imaging was performed on patients. Biometry was acquired using optical biometry; either the Zeiss IOL Master 500 (Carl Zeiss Meditec AG, Jena, Germany) or the Heidelberg Anterion (Heidelberg Engineering, Heidelberg, Germany). Biometry was entered into the online Barrett Toric Calculator to determine the appropriate IOL and power required to meet the refractive aim. Toric IOL (Alcon AcrySof SN6ATT) was selected for eyes with astigmatism greater than 0.5 D as measured on Total Corneal Power (Anterion), Anterior Corneal Curvature (IOL Master 500). The non toric IOL was AcrySof IQ SN60WF.

Statistical analysis performed using IBM SPSS Statistics for Windows, Version 2.8 (Armonk, NY: IBM Corp).

RESULTS

The postoperative PE and MAE, by protocol, is shown in table 1. Eyes in Protocol 1 had slightly myopic results as compared with eyes in Protocol 2 and 3 as shown in the PE column. There were no statistically significant differences between any of the protocol groups in relation to PE. However, there was a statistically significant difference in MAE between Protocol 1 and Protocol 2 (X2 (2, n = 31.99), p=<.001), and Protocol 1 compared with Protocol 3 (X2 (2, n = 22.91), p = <.001).

	PE		MAE	
	Mean ± SD	Median (IQR)	Mean ± SD	Median (IQR)
Protocol 1	-0.24±0.79	-0.26 (0.92)	0.63±0.51	0.48 (0.45)
Protocol 2	-0.01±0.18	0.09 (0.19)	0.14±0.12	0.12 (0.14)
Protocol 3	0.00±0.28	0.02 (0.35)	0.22±0.17	0.17 (.165)

Table 1: PE and MAE for each protocol.

Eyes were categorised into postoperative refractive outcomes within 0.25 D, by protocol group and the proportion of eyes in each category is shown in table 2. The outcomes for Protocol 1 were more variable, with only 18% achieving a refraction of ±0.25 D as compared to 90% (n=9) in Protocol 2 and 72% in Protocol 3 (n=72) and 23% of eyes in Protocol 1 had a refraction of more than ± 0.76 D, compared with 0% for the other two groups.

PE (D)	Protocol 1	Protocol 2	Protocol 3
	n	n	n
0 ± 0.25	4 (18%)	9 (90%)	28 (72%)
0.26 ± 0.50	8 (36%)	1 (10%)	6 (15%)
0.51 ± 0.75	5 (23%)	0	5 (13%)
0.76 ± 1.00	1 (5%)	0	0
>1.0	4 (18%)	0	0

Table 2: Proportion of eyes, grouped by refractive outcome and by protocol group.

The PE and MAE for protocol 2 and 3 were combined on the basis that the same method was used to determine the AL, and there was no statistically significant difference found in PE and MAE between the two protocols (X2 (2, n =-9.079), p=0.22). There was a significant difference in the distribution of the MAE between Protocol 1 and Protocol 2 and 3 combined (U = 163.0, z= 0-4.676, p= <.001), while no difference was found for PE (U = 646.50, z= 1.3370.78, p= 0.181). The distribution is shown in figure 5.

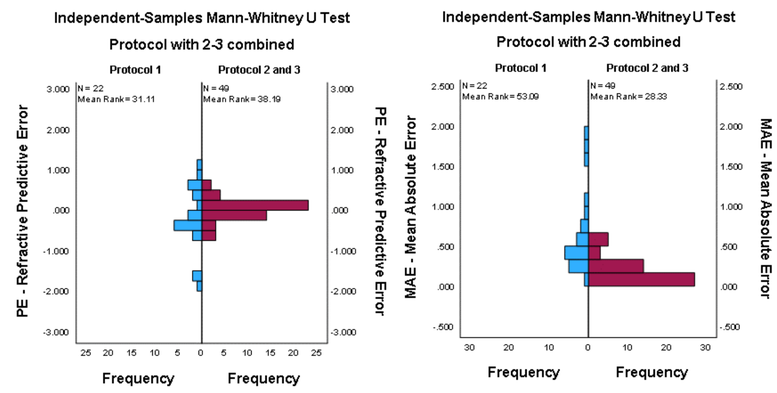

Figure 5: Distribution of PE and MAE comparing Protocol 1 against the combined eyes in Protocol 2 and 3.

Predictive factors: Analysis using multiple linear regression was performed using the combined data from protocol 2 and 3 to assess the impact of predictor variables on PE and MAE. The model contained five independent variables: anterior chamber depth (ACD); keratometry flat curve (K1) and steep curve (K2), central foveal thickness (CFT) and classification of ERM (hyper reflectivity). None of the variables entered into the model were found to be a predictor of outcome for PE and MAE.

DISCUSSION/CONCLUSION

The average PE for eyes in Protocol 2 and 3 combined was 0.008 D, indicating that the postoperative refractive outcomes were very close to the predicted refraction calculated preoperatively. Conversely, the average PE for Protocol 1 was −0.24 D, which is consistent with the literature that associates the phacovitrectomy procedure with a myopic refractive surprise[2 3]. One study reported an average PE outcome of -0.37 D ±0.81 as compared to a cataract only control group (0.04 D ± 0.57)[2], and another reported a mean difference of -0.79 D[3]. Although the PE for Protocol 1 was more favourable when compared to these studies (i.e. less myopic), the outcomes were clinically significant as compared to the PE of Protocol 2 and 3, and statistically significant for MAE.

The linear regression analysis found that none of the five variables assessed were predictive of PE and MAE, reinforcing that the major influence of refractive outcomes is the presence of ERM.

The study can confirm that favourable refractive outcomes for patients with pre-existing retinal conditions can be achieved using optical biometry. However, the method used to determine the correct AL is the critical step to a successful outcome. The method should include surgeon/orthoptist direct interrogation of all acquired A-scan peaks and correlation with the distance between the ERM and RPE on the SD-OCT, to confirm that the true RPE peak was selected for IOL calculation. This should be applied to all eyes undergoing phacovitrectomy and cataract surgery prior to vitrectomy.

REFERENCES

1. Kim, M., Kim, H., Lee, D., Koh, H., Lee, S., & Kim, S. (2015). Intraocular lens power estimation in combined phacoemulsification and pars plana vitrectomy in eyes with epiretinal membranes: A case-control study. Yonsei Medical Journal, 56(3), 805-811.
2. Falkner-Radler, C. I. M. D., Benesch, T. P., & Binder, S. M. D. (2008). Accuracy of preoperative biometry in vitrectomy combined with cataract surgery for patients with epiretinal membranes and macular holes. Journal of cataract and refractive surgery, 34(10), 1754-1760. doi:10.1016/j.jcrs.2008.06.021
3. Kovacs, I., Ferencz, M., Nemes, J., Somfai, G., Salacz, G., & Recsan, Z. (2007). Intraocular lens power calculation for combined cataract surgery, vitrectomy and peeling of epiretinal membranes for macular oedema. Acta Ophthalmol Scand, 85(1), 88-91. doi:10.1111/j.1600-0420.2006.00772.x
4. Tranos, P. G., Allan, B., Balidis, M., Vakalis, A., Asteriades, S., Anogeianakis, G., . . . Stavrakas, P. (2020). Comparison of postoperative refractive outcome in eyes undergoing combined phacovitrectomy vs cataract surgery following vitrectomy. Graefe's Archive for Clinical and Experimental Ophthalmology, 258(5), 987-993. doi:10.1007/s00417-019-04583-w
5. Kucumen, R. B., Yenerel, N. M., Gorgun, E., Kulacoglu, D. N., Dinc, U. A., & Alimgil, M. L. (2008). Anterior segment optical coherence tomography measurement of anterior chamber depth and angle changes after phacoemulsification and intraocular lens implantation. Journal of Cataract & Refractive Surgery, 34(10), 1694-1698.
6. Ercan, Z. E., Akkoyun, İ., Yaman Pınarcı, E., Yılmaz, G., & Topçu, H. (2017). Refractive outcome comparison between vitreomacular interface disorders after phacovitrectomy. J Cataract Refract Surg, 43(8), 1068-1071. doi:10.1016/j.jcrs.2017.06.034
7. Song, A. L., & Rizzuti, A. (2023). Optical Biometry. In StatPearls [Internet]. StatPearls Publishing.

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To compare the clinical outcomes of intravitreal 0.625% povidone-iodine and antibiotics injection to treat postoperative endopthalmitis

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The author have no financial conflicts of Interest to disclose concerning the presentation

Introduction

- Endophthalmitis is one of the most devastating eye infections, characterized by purulent inflammation of the intraocular fluids (vitreous and aqueous).
- Intravitreal and systemic antibiotic injections (vancomycin and ceftazidime) with or without pars plana vitrectomy are the treatments of choice for endophthalmitis.[1]
- But antibiotics can potentially induce the emergence of multidrug-resistant bacteria, vancomycin-resistant bacteria, and fungal infections.[2-3]
- Povidone Iodine(PI) is effective against multi-drug resistant bacteria, biofilms, acanthamoeba, fungi and virus.
- The choice of a 0.625% PI is the lowest effective concentration required for therapeutic efficacy. [4-7]
- 0.625% PI / Vitreous volume(5ml) → Intravitreal PI concentration: 0.0125%[8-11]

Purpose

To compare clinical outcomes of intravitreal 0.625% povidone-iodine injection and antibiotics injection in cases of postoperative endophthalmitis.

Intravitreal PI injection

VS

Intravitreal antibiotics injection

Methods

- This was a retrospective, single center study, the medical charts were reviewed.
- 33 eyes of 33 patients with postoperative endopthalmitis (Jan, 2015 – Oct. 2023)
- Group 1 (17 eyes) : Intravitreal 0.625% PI injection
  Group 2 (16 eyes) : Intravitreal antibiotics injection
- **Preparation**
  : 10% PI 0.1cc + normal saline 1.5 cc → Intravitreal PI (0.625%/0.1 ml) injection
- Antibiotics Eye drop (Vanco & cepha), steroid Eye drop, Cycloplegic eye drop.
- Pars plana vitrectomy using 0.025% PI (10% PI 1.25ml + BSS plus 500 ml mix)
  : VA ≤ LP or Vitreous opacity

Results

Table 1. Baseline variables of the two groups

	Group 1 (n=17) Povidone iodine	Group 2 (n=16) Antibiotics	*P*-value
Age(years)	70.2 ± 11.0	70.9 ± 11.3	0.855
Sex(female/male)	10/7	10/6	0.558
Type of surgery (Cataract/PPV)	15/2	16/1	0.523
Tine from symptom onset to Diagnosis(days)	5.1 ± 6.9	5.9 ± 6.4	0.741
Culture positive	4 (23.5%)	6 (37.5)	0.311
Medical history			
Diabetes	5 (29.4)	6 (37.5)	0.451
Hypertension	6 (35.2)	4 (25.0)	0.397

Table 2. Clinical outcomes of two groups

	Group 1 (n=17) Povidone iodine	Group 2 (n=16) Antibiotics	*P*-value
Initial BCVA (logMAR)	2.03 ± 0.53 (0.8 – 3.0)	2.13 ± 0.46 (0.8 – 2.7)	0.309
Final BCVA (logMAR)	1.04 ± 0.95 (0.04 – 3.0)	1.26 ± 0.99 (0.15 – 3.0)	0.181
***P*-value**	**<0.001**	**0.092**	
PreOP IOP (mmHg)	17.7 ± 6.0 (8.0 – 30.0)	16.2 ± 6.8 (9.0 – 35.0)	0.511
PostOP IOP (mmHg)	13.1 ± 2.8 (8.0 – 17.0)	12.9 ± 3.9 (8.0 – 24.0)	0.744
***P*-value**	0.588	**<0.001**	
Final visual acuity (BCVA, Snellen chart)			
≥10/100	12 (70.6%)	5 (37.5%)	**0.027**
Severe Visual loss (<10/100)	5 (29.4%)	10 (62.5%)	
Intravitreal injections	1.64 ± 0.71 (1.0 – 2.0)	2.94 ± 1.43 (1.0 – 6.0)	**0.002**
Hypopyon (days)	2.6 ± 2.2 (1-10)	6.4 ± 7. 3 (1 – 30.0)	**0.048**
Tine from surgery to first visit (days)	7.0 ± 10.2 (0 – 35.0)	3.1 ± 4.9 (0– 21.0)	0.089
PPV	1.06 ± 0.43 (0.0 – 2.0)	1.76 ± 0.75 (1.0 – 3.0)	**0.002**

Discussions

- The key to successful of intravitreal PI injection is to determine a safe and effective therapeutic concentration.
- Effective intravitreal PI concentration : 0.013-0.27%
- What was the rationale behind selecting a 0.625% concentration of PI?
  - Close to lowest effective concentration for therapeutic efficacy(vitreous volume = 5ml -> Intravitreal PI concentration: 0.0125%)
  - The vitreous volume in human eyes is often less than 5ml
  - The concentration may need to be adjusted according to axial length
- Intravitreal PI injection is associated with better visual outcomes.(BCVA> 0.1, 70. 6%)
- Fewer intravitreal injections and PPV compared to antibiotics
- Advantages (Easier to prepare than an antibiotics , Easily accessible and cheap, Absence of drug resistance, Rapid bactericidal effect)

Conclusion

▪ Following intravitreal 0.625%/0.1mL PI injection diluted to approximately 0.013%, the lowest concentration effective in treating postoperative endophthalmitis, we observed improvements in both endophthalmitis and visual acuity.

▪ The PI group required significantly fewer injections, had a shorter duration of hypopyon, and underwent fewer surgeries compared to the antibiotic group. Additionally, a significantly higher proportion of patients in the PI group experienced improved vision after treatment.

▪ Given the faster antimicrobial action compared to antibiotics, intravitreal 0.625% PI injection could be considered as an optimal initial treatment for patients with postoperative endophthalmitis

Reference

1. Results of the Endophthalmitis Vitrectomy Study. A randomized trial of immediate vitrectomy and of intravenous antibiotics for the treatment of postoperative bacterial endophthalmitis. Endophthalmitis Vitrectomy Study Group. Arch Ophthalmol . 1995 Dec;113(12):1479-96.
2. Clinical and microbiologic review of culture-proven endophthalmitis caused by multidrug-resistant bacteria in patients seen at a tertiary eye care center in southern India. Retina. 2011 Oct;31(9):1806-11. doi: 10.1097/IAE.0b013e31820f4b9d. PMID: 21478803.
3. Sheyman AT, Cohen BZ, Friedman AH, Ackert JM. An outbreak of fungal endophthalmitis after intravitreal injection of compounded combined bevacizumab and triamcinolone. JAMA Ophthalmol. 2013 Jul;131(7):864-9. doi: 10.1001/jamaophthalmol.2013.88. PMID: 23640384.
4. Kim KH et al. Intraocular Pharmacokinetics of Povidone-Iodine and Its Effects on Experimental Staphylococcus epidermidis Endophthalmitis. Invest Ophthalmol Vis Sci. 2015 Oct;56(11):6694-700. 1)
5. Nakashizuka H et al. Intravitreal Injection of 1.25% Povidone Iodine Followed by Vitrectomy Using 0.025% Povidone Iodine Irrigation for Treating Endophthalmitis. Transl Vis Sci Technol. 2019 Feb 13;8(1):21.
6. Brozou CG et al. The efficacy of intravitreal povidone iodine application in experimental Staphylococcus epidermidis endophthalmitis. Ophthalmic Res. 2009;41(4):181-5.
7. Trost LW et al. The effect of intravitreally injected povidone-iodine on Staphylococcus epidermidis in rabbit eyes. Journal of ocular pharmacology and therapeutics. 2007;23(1):70-7.
8. Azhdam AM et al. In Vivo Measurement of the Human Vitreous Chamber Volume Using Computed Tomography Imaging of 100 Eyes. Transl Vis Sci Technol. 2020 Jan 29;9(1):2.
9. de Santana JM et al. Use of axial length to estimate the vitreous chamber volume in pseudophakic. Graefes Arch Clin Exp Ophthalmol. 2021 Jun;259(6):1471-1475.
10. Borkenstein AF et al. A Formula for Calculating Individual Vitreous Volume: A New Approach Towards Tailored Patient Dosing Regime in Intravitreal Therapy. Ophthalmol Ther. 2024 Jan;13(1):205-219.
11. Juliana et al. Use of axial length to estimate the vitreous chamber volume in pseudophakic. Graefes Arch Clin Exp Ophthalmol 2021 Jun;259(6):1471-1475

CLINICAL PATTERN OF UVEITIS MASQUERADE SYNDROME: A FIFTEEN-YEAR RETROSPECTIVE CASE SERIES

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Poster ID 109

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INTRODUCTION

- "Pseudo-uveitis" or "uveitis masquerade syndromes" (UMS) are non inflammatory ocular conditions that can mimic uveitis, including tumoral pathologies like vitreoretinal lymphoma and various non-tumoral ones.
- Incomplete clinical exams or misinterpretation of clinical data and imaging can lead to inappropriate treatment, increasing the risk of ocular and general morbidity.

METHODS

- A retrospective descriptive monocentric study, between January 01, 2007 and December 31, 2022.

FINDINGS

- Over 15 years, we identified 89 cases (124 eyes) among 3,000 cases of uveitis, with a final diagnosis of UMS, i.e. a rate of 3%.
- Thirty (33.7%) cases were neoplastic UMS and 59 (66.3%) were nonneoplastic UMS.
- The mean age was 40 ± 19 years (extremes; 7 - 80 years), including 43 men (48.3%) and 46 women (51.7%).
- Ocular involvement was unilateral in 61% of cases.
- Time to diagnosis ranged from 1 day to 10 years, with an average of 4.7 months.
- The main clinical signs causing misdiagnosis were anterior segment inflammation (29%), cells in the vitreous (47%), chorio-retinal lesions (44.7%), macular edema (56.5%) and retinal serous detachment (37.7%) (Figure1).
- Etiologies of neoplastic UMS were malignant tumors (19 cases; 63%), including vitreoretinal lymphoma (7 cases; 37%), uveal melanoma (6 cases; 31%), ocular metastases (5 cases; 26%) and one case of leukemia, benign tumours (8 cases; 26.6%) and paraneoplastic syndromes (3 cases; 10%) (Figure 2).

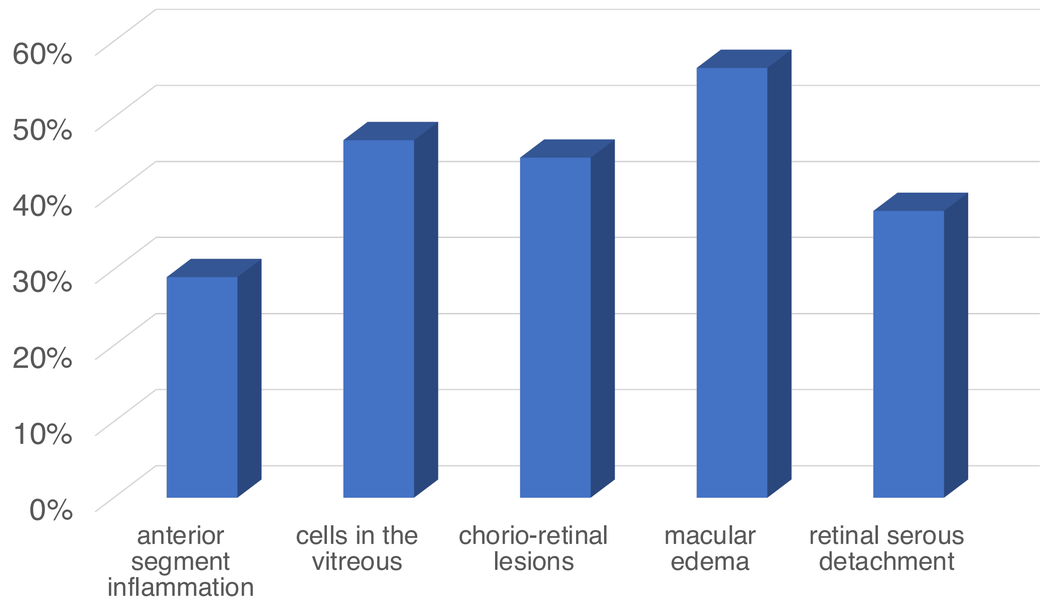

Figure 1 : Main clinical signs causing misdiagnosis

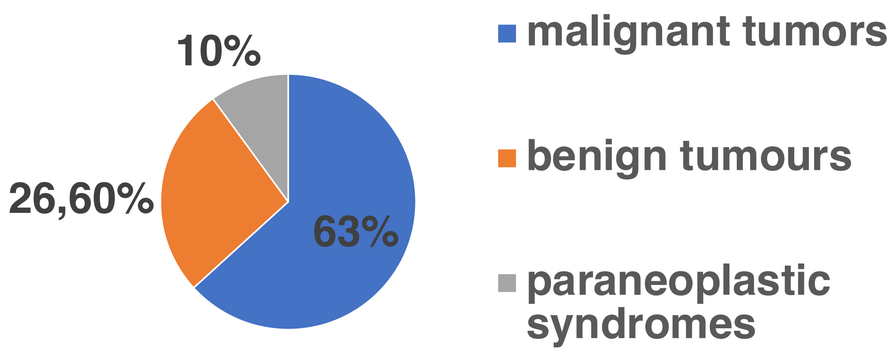

Figure 2 : Etiologies of neoplastic uveitis masquerade syndrome

- Hereditary retinal dystrophies were the main etiology of non neoplastic UMS (17 cases; 28.8%), followed by rhegmatogenous retinal detachment (7 cases; 11.8%) (Figure 3).
- The definitive diagnosis was clinical in 16.8% of cases and based on multimodal ocular imaging in 60.6% of cases.
- Systemic workup including laboratory and/or radiological tests were requested in 27 cases (30%), and it was negative or normal in 95% of cases.
- Prior to the final diagnosis, a therapeutic mistake was found in 19% of cases including prescribing topical and/or systemic corticosteroids and immunosppressive therapy.

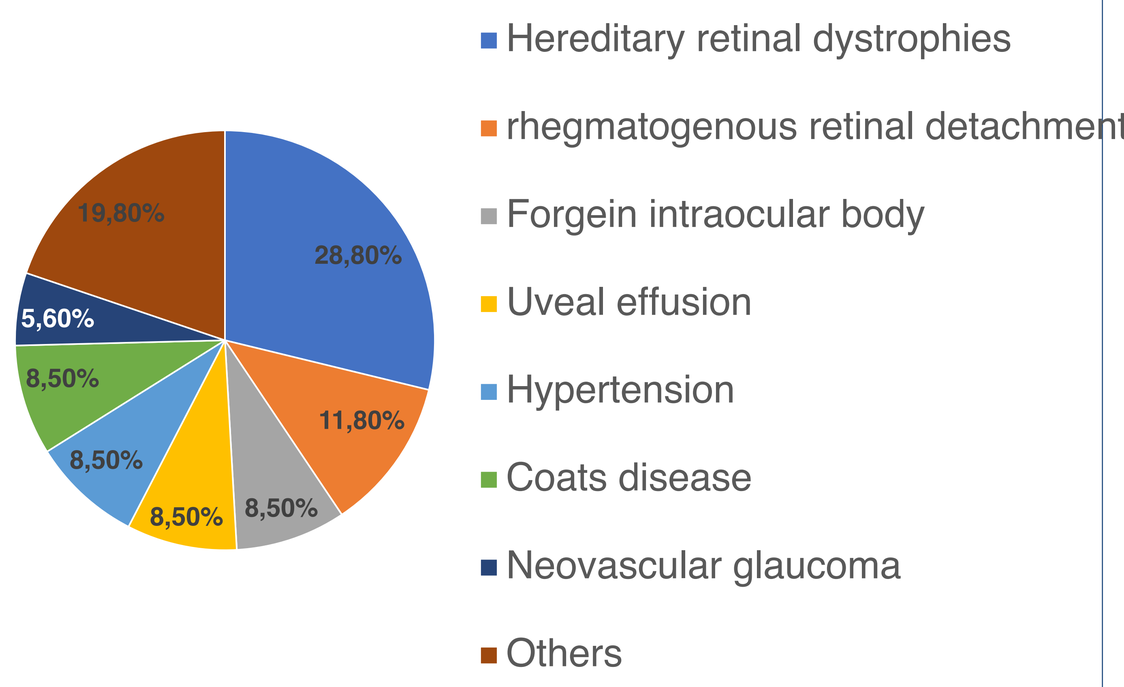

Figure 3 : Etiologies of non neoplastic uveitis masquerade syndrome

CONCLUSIONS

- In this series, vitreoretinal lymphoma and hereditary retinal dystrophies were identified as the primary causes of UMS.
- UMS should be considered in cases of any ocular inflammation occurring at extreme ages, chronic uveitis resistant to or dependent on corticosteroids, or in patients with a history of neoplasia or systemic signs suggesting a neoplastic origin.
- Accurate identification of UMS depends on a comprehensive medical history, a thorough clinical examination, and a detailed analysis of multimodal ocular imaging results.

REFRENCES

- Rothova A, Ooijman F, Kerkhoff F, Van Der Lelij A,Lokhorst HM.Uveitis Masquerade syndromes. Ophthalmology.2001;108:386–99.2.
- Agnieszka Kubicka-Trzaska Bozena Romanowska-Dixon , Non-malignant uveitis masquerade syndromes Klin Oczna 2008;110(4-6):203-6.

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CLINICAL PATTERN OF VITREOUS HEMORRHAGE ASSOCIATED WITH UVEITIS: A THIRTEEN-YEAR RETROSPECTIVE STUDY FROM A TERTIARY REFERRAL CENTER

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INTRODUCTION

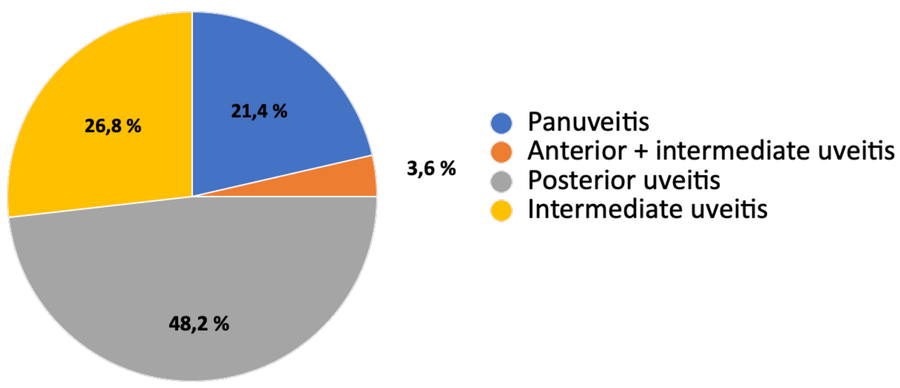
- Vitreous hemorrhage (VH) is a rare but sight-threatening complication of uveitis.
- Data on the frequency and the characteristics of this complication in the literature are scarce.
- We aimed to compare the clinical findings and visual outcomes of VH associated with inflammatory ocular conditions between children and adults patients.

METHODS

- A retrospective case series.
- Patients diagnosed with VH associated with inflammatory ocular conditions, from 2007 to 2020.
- All patients underwent a complete ophthalmological examination
- Demographics, clinical findings, etiologies, treatment modalities, and visual outcomes were collected and compared between adults and children

RESULTS

- **46 cases (56 eyes)** of VH were identified ==> 7.6% of retinal vasculitis
- **10 children (12 eyes)** with a mean age of **9.5 years and 36 adults (44 eyes)** with a mean age of **35 years**
- Median time between diagnosis of uveitis and VH occurring = **4.5 months** (0 - 18 years)
- Unilateral VH = **77.8%** (adult) vs **80%** (children)
- Mean follow-up period was 18 months

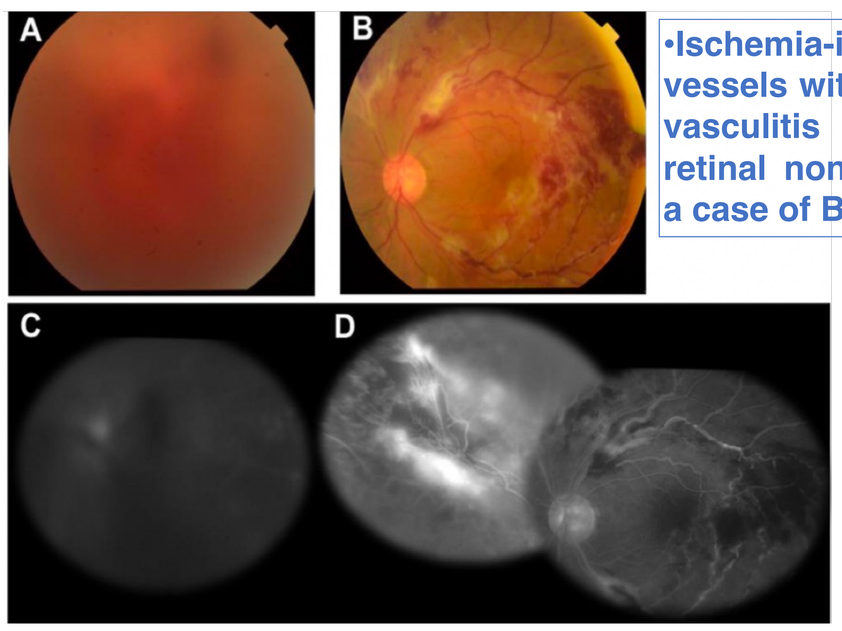


Anatomic classification of uveitis associated with VH

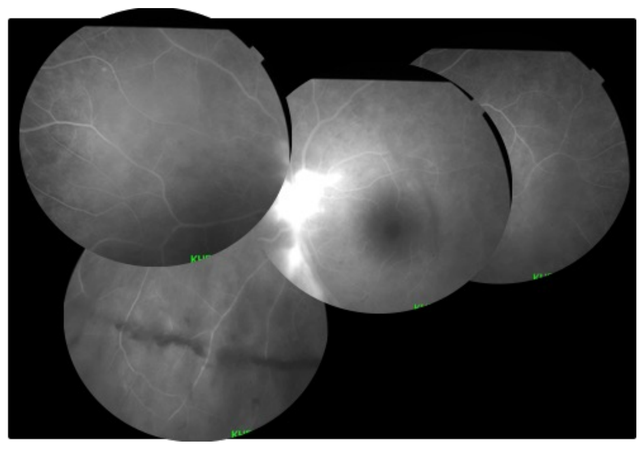
Etiologies	46 patients	%
Tuberculosis	15	32.6%
Behçet disease	8	17.4%
Idioapathic intermediate uveitis	7	15.2%
Sarcoïdosis	6	13%
Eales disease	2	4.3%
Systemic lupus	1	2.2%
IRVAN syndrome	1	2.2%
Toxoplasmosis	1	2.2%
Post-streptococcic uveitis	1	2.2%
Idiopathic uveitis	4	8.7%

Table 1. Etiologies of uveitis associated with VH in our series

- Comparative study showed that **VH secondary to inflammatory NV** were more frequent in children, more associated with idiopathic intermediate uveitis, vitritis, ant snowballs and fern like capillaritis and had a better visual prognosis, while **VH secondary to ischemic NV** were more frequent in adults, more associated with posterior uveitis, vascular sheathing and retinal hemorrhages and had a worse visual prognosis.
- The main mechanism of bleeding was inflammatory optic disc neovessels (NV) in the children group (66.6%, **p≤0,001**) and ischemic posterior segment NV in the adult group (81.8 %, **p≤0,001**).
- Therapeutic modalities included corticosteroids (71.1%), immunosuppressive therapy (34.8%), anti-tuberculosis drugs (28.3%), scatter laser photocoagulation of retinal non-perfusion areas (50%), anti-VEGF intravitreal injections (25%) and vitrectomy (21%).
- The mean final visual acuity was significantly higher in the pediatric group (20/25) than the adult group (20/50) (p=0.045).



•Ischemia-induced new vessels with occlusive retinal vasculitis and extensive retinal non-perfusion area in a case of Behçet disease.



•Inflammation-induced new vessels of the optic disc with no obvious peripheral non-perfusion areas in a case of idiopathic intermediate uveitis.

CONCLUSION

- VH is a sight-threatening complication of uveitis.
- Clinicians should be aware of the distinctive clinical characteristics and imaging findings of VH-related uveitis in adults as compared to children. This is of utmost importance in establishing a tailored investigational work-up for prompt etiologic identification.
- Early and accurate discrimination between ischemia- and inflammatory-driven neovascularization is mandatory for appropriate management to improve visual outcomes.

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Diagnosis and management of opacified IOL

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Introduction

The purpose of this study is to describe clinical findings and management of intraocular lens (IOL) opacification.

Methods

- A retrospective descriptive study including patients diagnosed with IOL opacification.
- Clinical findings, management and outcomes were described.

Findings

- there were four women and three men with a mean age of 61.3 years.
- The mean duration of pseudophakia was 3.25 years.
- All patients underwent uneventful phacoemulsification with hydrophilic acrylic IOL implantation.
- Two patients had a history of vitreoretinal surgery with silicone oil tamponade.
- All patients had significant visual impairment with a mean initial BCVA of +1.6 LogMar (1/25 Snellen's equivalent).
- In 2/7 cases IOL opacification was misdiagnosed as posterior capsular opacification and Yag laser capsulotomy was attempted with no success.
- Five patients underwent IOL exchange. Secondary IOL were implanted in the capsular bag (n=1), the sulcus (n=1), the anterior chamber (n=1) or were scleral fixated (n=2) **(Figure 1).**
- IOL exchange was performed at a mean interval of 3.5 years after the primary surgery.
- Mean post-operative BCVA was +1.0 LogMar (1/10 Snellen's equivalent).

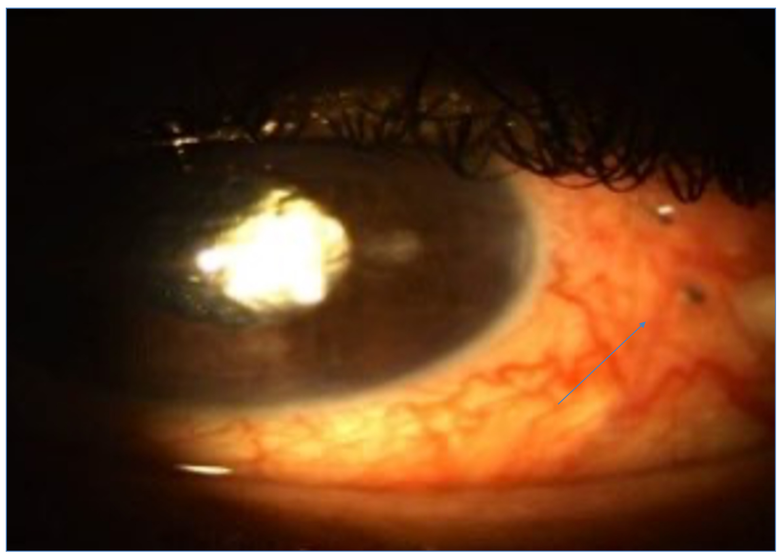

FIGURE 1: Postoperative anterior segment photographs showing scleral fixated IOL using the Yamane technique.

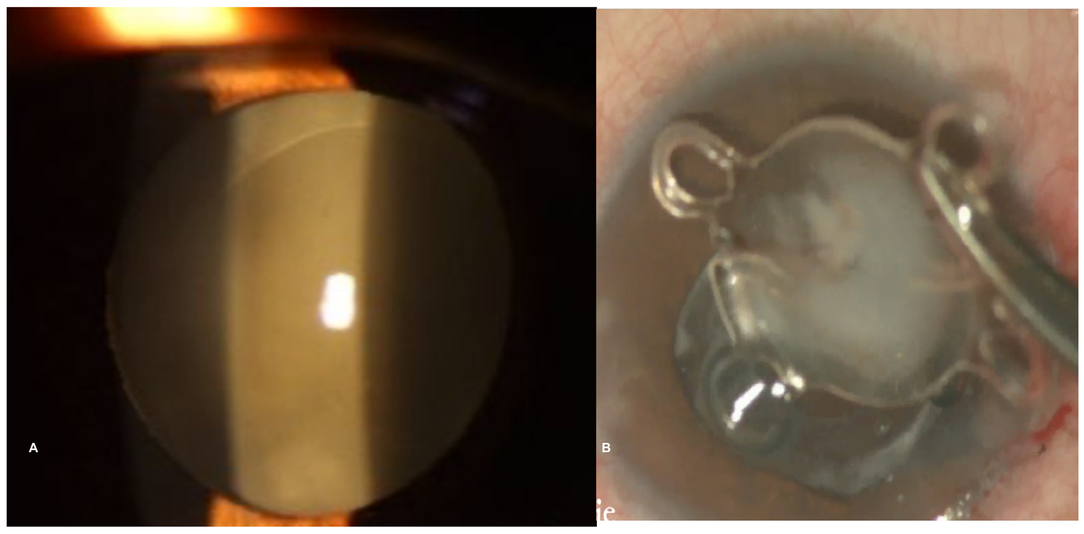

FIGURE 2: (A) Pre-operative anterior segment photographs showing IOL opacification (B) Same patient during IOL exchange.

CONCLUSION

- IOL opacification is a rare complication, however it may significantly reduce visual quality leading to IOL exchange.
- Ophthalmologists should be aware of this complication as erroneous diagnosis like posterior capsular opacification, vitreous hemorrhage or haze can lead to unnecessary and hazardous treatment.

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RECURRENT CHOROIDAL NEOVASCULARIZATION ASSOCIATED WITH PUNCTATE INNER CHOROIDOPATHY

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Introduction

Punctate inner choroidopathy (PIC) : a rare inflammatory disease of the posterior ocular segment with a probably autoimmune etiology, classified as a white dot syndrome.

The disease most commonly affects young, myopic women and is characterized by multifocal, well circumscribed, yellow-white choroidal lesions at the posterior pole of the retina, without anterior or vitreous inflammation [1]. Diagnosis is made based on clinical presentation. The development of choroidal neovascular membrane is the most serious complication of PIC.

Methods

A case report.

Results

We report the case of a 39-year-old female, with a history of anxiety disorders and high myopia. The patient presented a decreased visual acuity and photopsia in her right eye (RE). Best corrected visual acuity was 20/1000 in the RE (-9.00 sph) and 20/25 in the left eye (LE) (-11.00 sph). Anterior segment examination and intraocular pressure were within normal limits. The Fundus showed multiple yellowish punctate lesions at the posterior pole and peripapillary regions in both eyes , along with a deep grey macular lesion associated with a small hemorrhage in the right eye (RE). OCT showed a hyperreflective sub-RPE lesion associated with subretinal fluid and OCT angiography revealed a neovascular membrane in the deep layers ***(figure 1)***.

Systemic corticosteroids and immunosuppressive therapy (methotrexate) were prescribed along with an intravitreal anti-VEGF injection in the RE. After a four-month follow-up, visual acuity improved to 20/25 in the RE and 20/20 in the LE ***(figure 2)***. Six months later, medical therapy was inappropriately discontinued, and the patient presented with decreased visual acuity in the LE. Clinical and imaging findings showed active CNV ***(Figure 3).*** Systemic immunosuppressive drugs were administrated and intravitreal anti-VEGF injection was performed in the LE with gradual improvement **(Figure 4).**

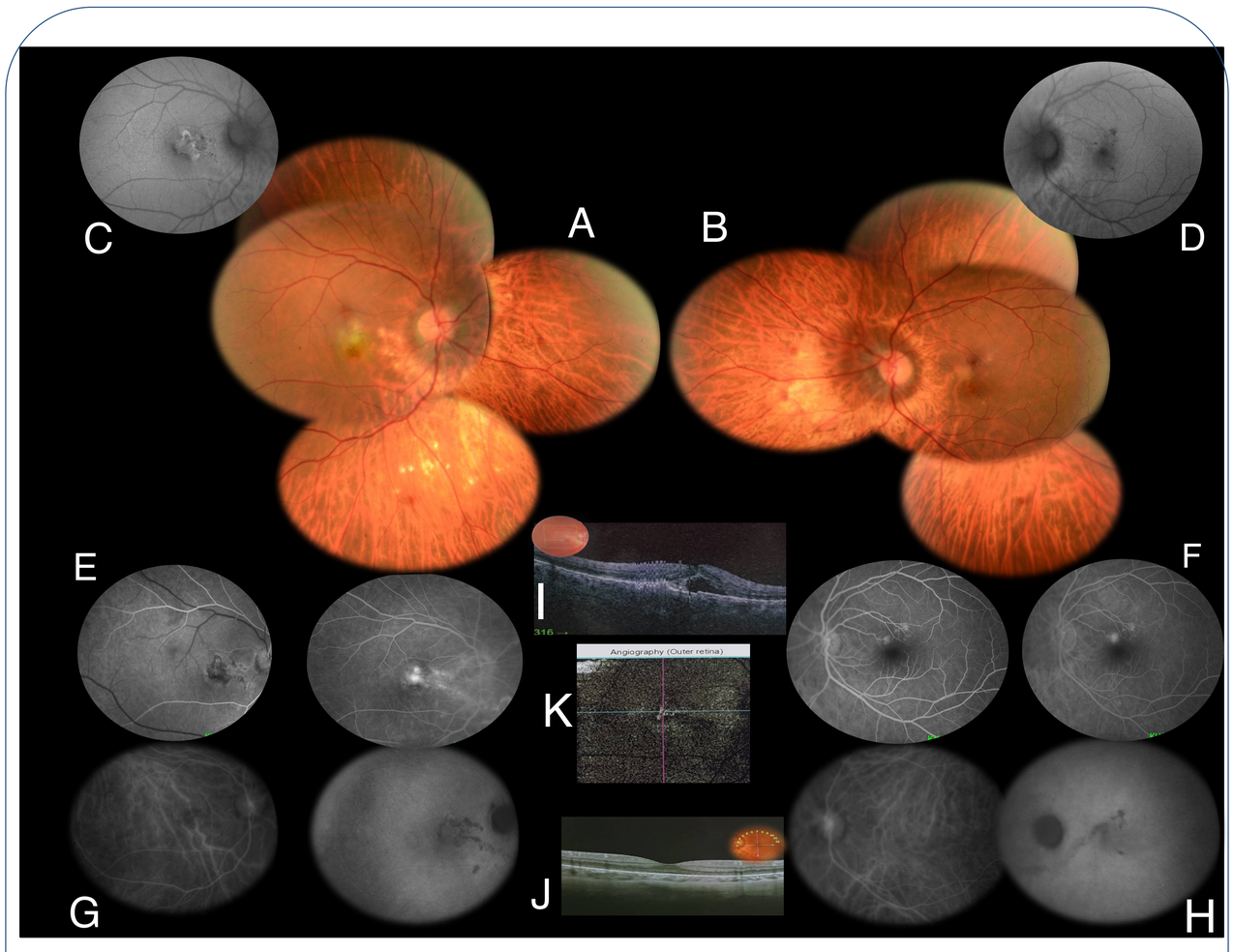

Figure 1: (A, B) Fundus photographs showing multiple yellowish punctate lesions at the posterior pole and peripapillary regions in both eyes, along with a deep grey macular lesion associated with a small hemorrhage in the right eye (RE). (C, D) Fundus autofluorescence showing hypoautofluorescent lesions in both eyes with a hyperautofluorescent margin in the RE. (E, F) Fluorescein angiography revealing hyperfluorescent signals in the affected areas with diffuse leakage in both eyes, and an early hyperfluorescent macular lesion with late leakage in the RE. (G, H) Indocyanine green angiography revealing dilation of choroidal vessels and hypofluorescent areas corresponding to choroidal lesions due to hypoperfusion. (I, J) SD-OCT showing a slightly elevated retinal pigment epithelial (RPE) layer and a hyperreflective sub-RPE lesion associated with subretinal fluid in the RE. (K) OCT angiography revealing a neovascular membrane in the deep layers. Systemic corticosteroids and immunosuppressive therapy (methotrexate) were prescribed along with an intravitreal anti-VEGF injection in the RE.

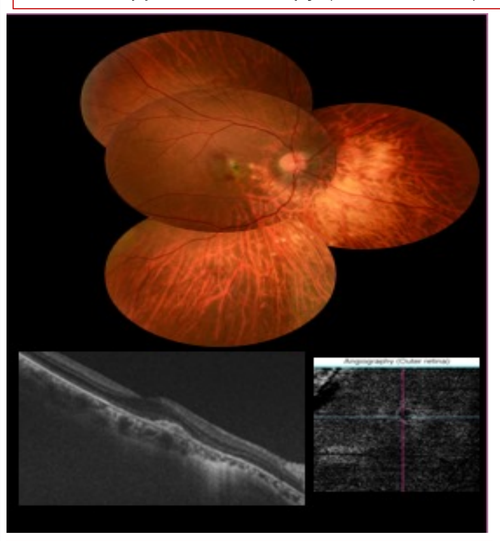

Figure 2: Fundus photograph reveals an atrophic macular lesion. (B) Macular OCT shows the resolution of subretinal fluid with persistent subretinal fibrosis. (C) OCT angiography demonstrates an inactive neovascular membrane.

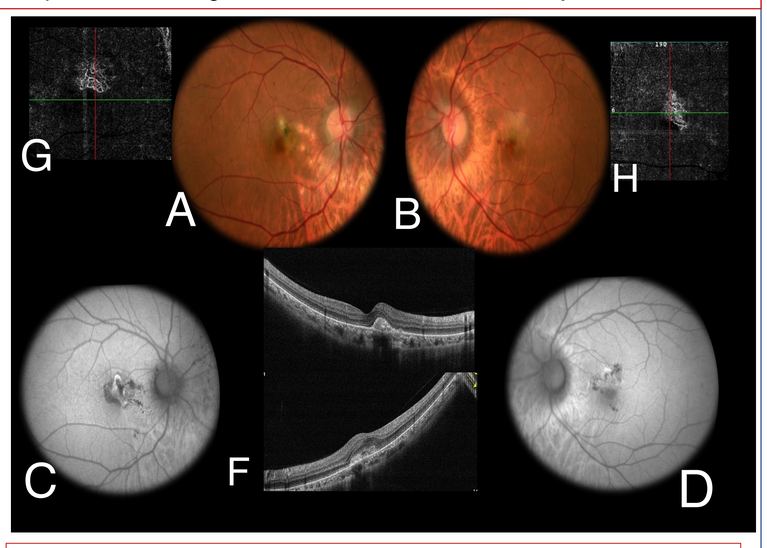

Figure 3: Six months-follow-up multimodal imaging
(A, B) Fundus photographs show persistent multiple yellowish punctate lesions at both eyes' posterior pole and peripapillary regions, along with a new deep grayish macular lesion in the left eye (LE). (C, D) Fundus autofluorescence images reveal hypoautofluorescent lesions with hyperautofluorescent margins. (E, F) SD-OCT shows a hyperreflective subretinal lesion in both eyes, along with residual retinal fluid in the LE. (G,H) OCT angiography reveals a neovascular

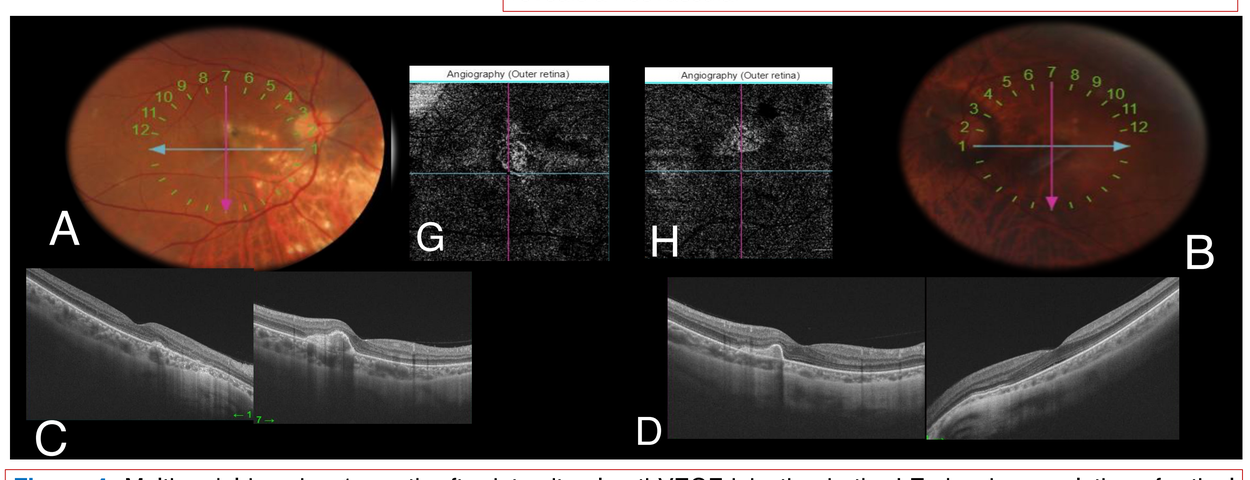

Figure 4: Multimodal imaging 1 month after intravitreal anti-VEGF injection in the LE showing resolution of retinal fluid in the LE.

Conclusions

PIC is associated with a high risk of CNV recurrence, requiring a long-term follow-up. Multimodal imaging, especially OCT, OCTA, and fundus autofluorescence, are useful tools for follow-up The combined therapy of long-term immunosuppression with intravitreal anti-VEGF injections should be considered as a therapeutic strategy for managing recurrent CNV associated with PIC.

BILATERAL DIFFUSE UVEAL MELANOCYTIC PROLIFERATION (BDUMP) : A REPORT OF TWO CASES

21st Meeting
European VitreoRetinal Society EVRS

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INTRODUCTION

Paraneoplastic syndrome is a remote, non-metastatic effect of cancer that affects approximately 0.01% to 1% of cancer patients. The diagnosis of these syndromes may precede the detection of the primary malignancy by months or even years.

Herein we describe two cases of a rare paraneoplastic syndrome: bilateral diffuse uveal melanocytic proliferation (BDUMP)

CASE 1

A 39-year-old patient presented with a 4-year history of progressive bilateral vision loss. At presentation, best-corrected visual acuity (BCVA) was 20/400 in the right eye (RE) and 20/1000 in the left eye (LE). Slit-lamp examination revealed mild anterior chamber inflammation and vitritis. Findings from the fundus examination and ocular imaging are shown in Figures 1. Based on the clinical presentation, a presumed diagnosis of bilateral diffuse uveal melanocytic proliferation (BDUMP) was made, and the patient was referred for further systemic evaluation to investigate any underlying malignancy.

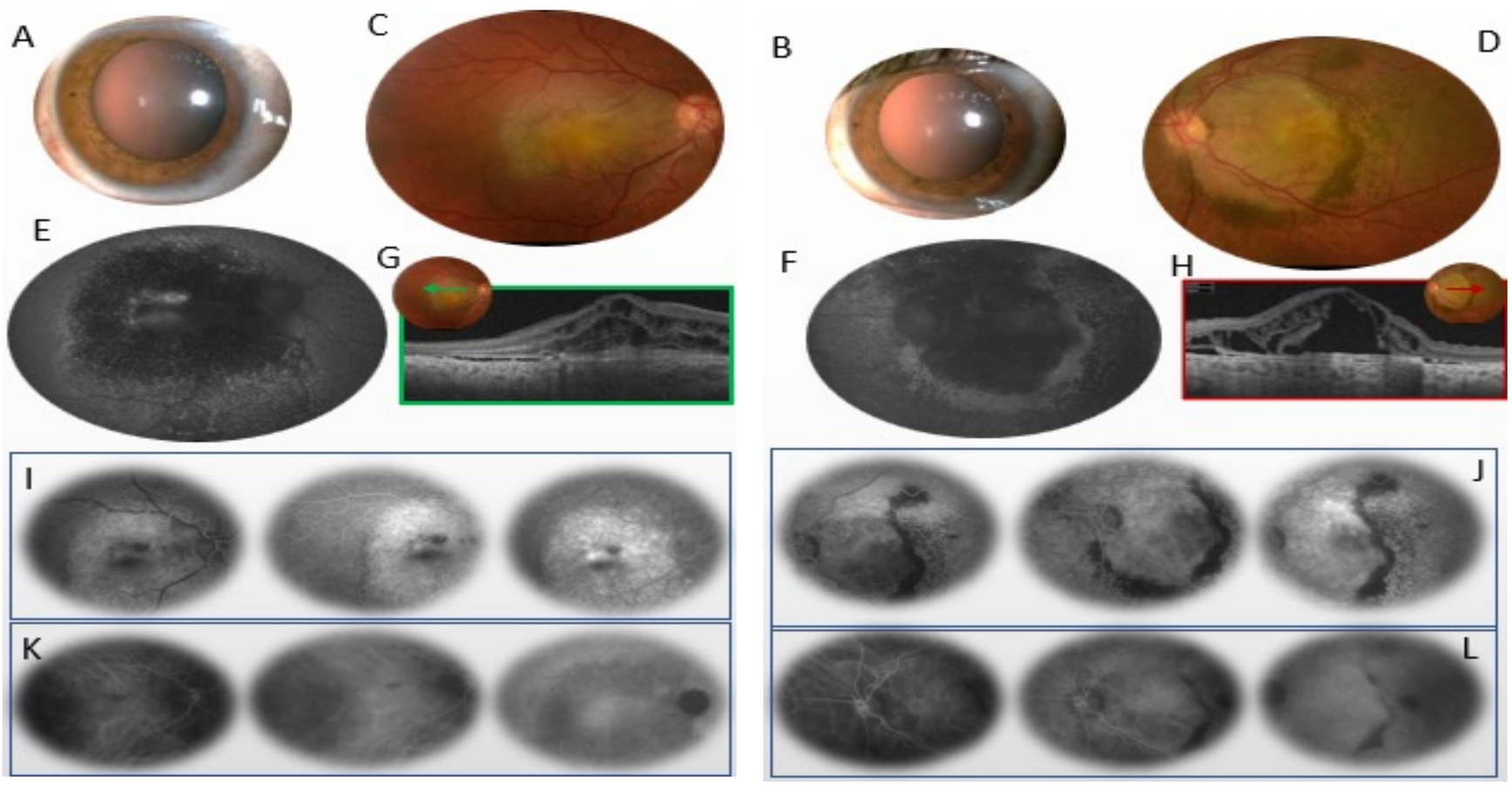

Figure 1 (CASE 1) : (A,B) Anterior segment photographs at presentation. (C,D) Fundus photographs showing extensive deep yellowish-orange lesions in both eyes, with pigmented dots in the LE in a giraffe-like pattern. (E,F) Fundus autofluorescence (FAF) imaging showing patchy areas of hypoautofluorescence surrounded by zones of increased autofluorescence, with a giraffe-like pattern OU. (G,H) OCT revealing macular edema, subretinal fluid, hyper-reflective choroidal lesions, and choroidal thickening OU. (I,J) Fluorescein angiography demonstrating a giraffe spot pattern of multiple nummular hyperfluorescent lesions surrounded by zones of hypofluorescence (inverse FAF pattern) OU. (K,L) Indocyanine green angiography (ICGA) showing scattered darkly pigmented choroidal lesions as well-circumscribed hypofluorescent areas.

CASE 2

A 55-year-old female patient with a history of clear cell adenocarcinoma treated with chemotherapy presented with bilateral decreased visual acuity over the past two months. Slit-lamp examination and intraocular pressure (IOP) were within normal limits. Findings from the fundus examination and ocular imaging are shown in Figures 2. Based on these findings, a diagnosis of bilateral diffuse uveal melanocytic proliferation (BDUMP) was made. The patient was referred back to her oncologist for further chemotherapy management.

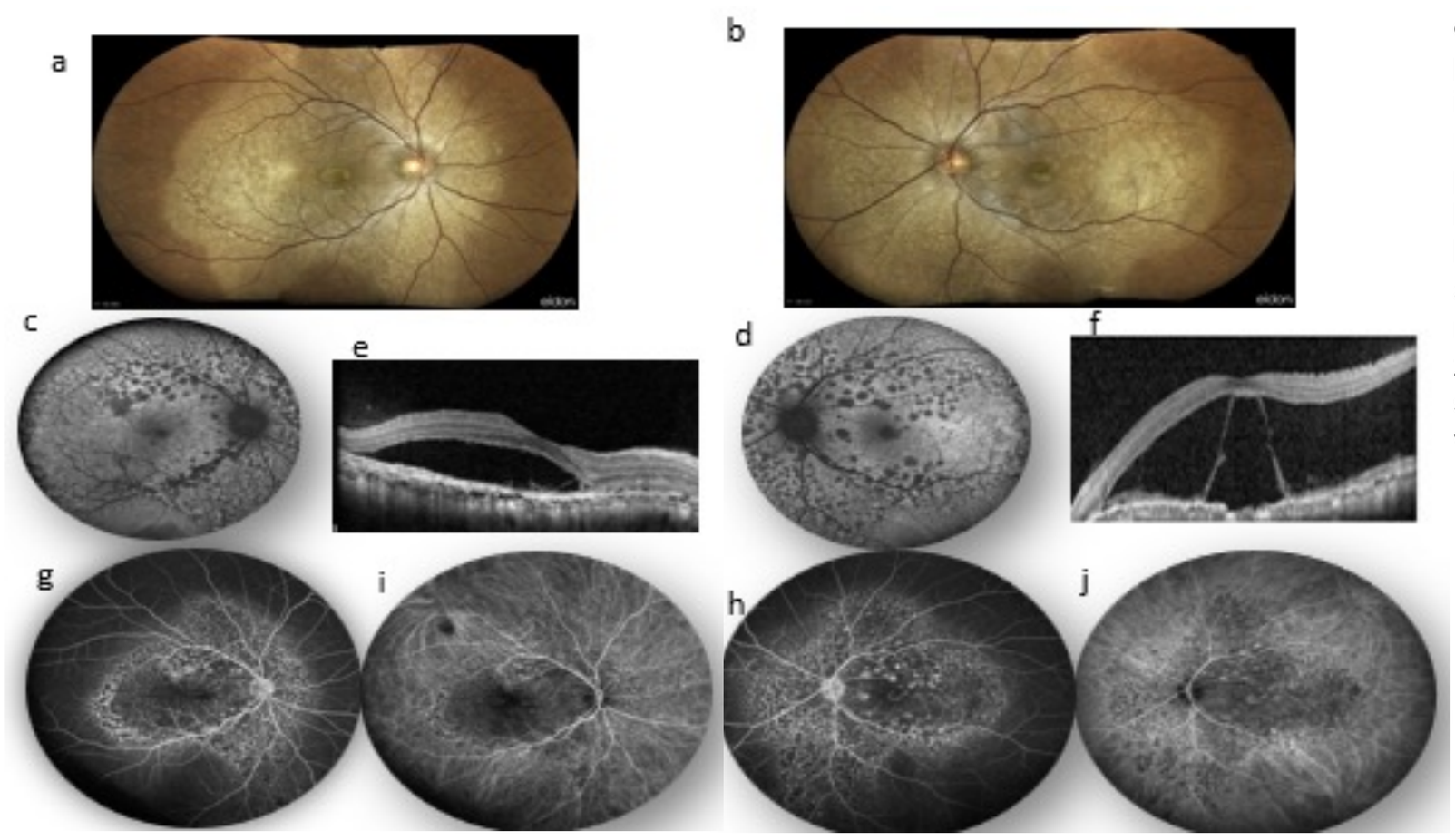

Figure 2 (Case 2): (a, b) Fundus photographs showing deep irregular yellowish placard-like lesions at the posterior pole. **(c, d)** Autofluorescence images revealing irregular areas of hypo-autofluorescence surrounded by regions of increased autofluorescence (in a leopard-spot pattern). **(e, f)** OCT showing hyperreflective choroidal lesions, choroidal thickening, subretinal fluid, and bacillary layer detachment. **(g, h)** Fluorescein angiography revealing a giraffe spot pattern of multiple nummular hyperfluorescent lesions surrounded by zones of hypofluorescence. **(i, j)** ICG angiography showing scattered dark choroidal lesions appearing as well-defined hypocyanscent areas.

CONCLUSION

BDUMP is a rare paraneoplastic syndrome that causes progressive bilateral vision loss. This condition arises from the diffuse proliferation of benign melanocytes within the uvea, primarily affecting the choroid. Ophthalmologists should be aware of this syndrome to perform comprehensive systemic evaluations in individuals and identify the primary malignancy.

REFRENCES

[1] Klemp K, Kiilgaard JF, Heegaard S, Nørgaard T, Andersen MK, Prause JU. Bilateral diffuse uveal melanocytic proliferation: Case report and literature review. Acta Ophthalmol. 2017 Aug;95(5):439-445. doi: 10.1111/aos.13481. Epub 2017 Jun 21. |2]Tong N, Wang L, Wang N, Zhou Z. Bilateral Diffuse Uveal Melanocytic Proliferation Secondary to Rectal Adenocarcinoma: A Case Report and Literature Review. Front Med (Lausanne). 2021 Jul 20;8:691686.

MULTIMODAL DIAGNOSTIC IMAGING IN PRIMARY VITREORETINAL LYMPHOMA

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European VitreoRetinal Society EVRS

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INTRODUCTION

- Primary vitreoretinal lymphoma (PVRL) is an aggressive lymphoma that represents a diagnostic challenge.
- The purpose of this presentation is to describe multimodal imaging findings in PVRL.

MATERIALS AND METHODS

- The medical records and imaging findings of 4 patients (4 eyes) diagnosed with PVRL were retrospectively reviewed.
- Detailed ophthalmic examination, fundus photography, fundus autofluorescence (FAF), fluorescein angiography (FA), optical coherence tomography (OCT) and OCT angiography (OCTA) were analyzed in all patients.
- All patients underwent vitreous biopsy for diagnosis confirmation. Brain magnetic resonance imaging (MRI) was performed in all cases.

RESULTS

- There were 2 women and 2 male patients with a mean age of 68.75 years.
- Visual blurring was the presenting symptom in all patients (100%).
- Clinical findings at presentation included vitritis in 4 eyes (100%), vitreous clumps in 2 eyes (50%), subretinal deposits in 3 eyes (75%) and exudative retinal detachment in one eye (25%).

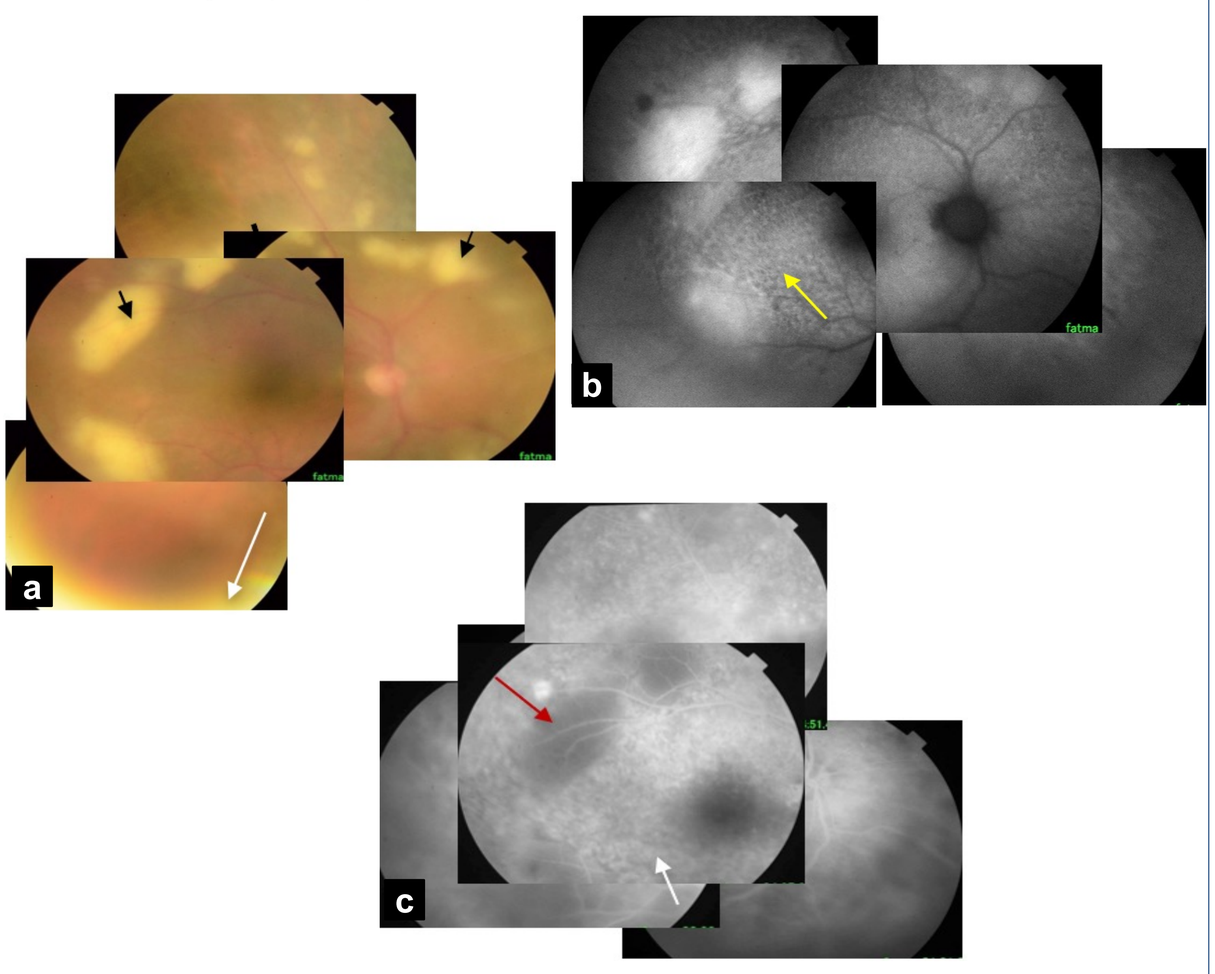

Figure 1. (A) Color fundus photograph of the right eye of a patient with PVRL shows multiple yellowish nodular subretinal deposits (black arrows). (B) Fundus autofluorescence reveals granular hyperautofluorescent and hypoautofluorescent (yellow arrow) (C) Fluorescein angiography shows hypofluorescent lesions (red arrow) with a "leopard spot" appearance (white arrow).

- FAF showed granular hyperautofluorescence and hypoautofluorescence lesions in 3 eyes (75%) and blockage by mass lesion was seen in 1 eye.
- The most common pattern on FA was hypofluorescent lesions with a "leopard spot" appearance (75%).
- OCT revealed hyperreflective sub retinal lesions between RPE and Bruch's membrane with an undulating shape (seasick sign) in 3 eyes (75%) and an epiretinal membrane in one eye. OCTA showed areas of decreased signal on choriocapillaris slab in 2 eyes (50%).
- MRI of the globes and brain showed no abnormality in all cases.
- Vitreous cytology revealed atypical mononuclear cells consisting with the diagnosis of PVRL in all cases. The patients were referred to oncology unit.

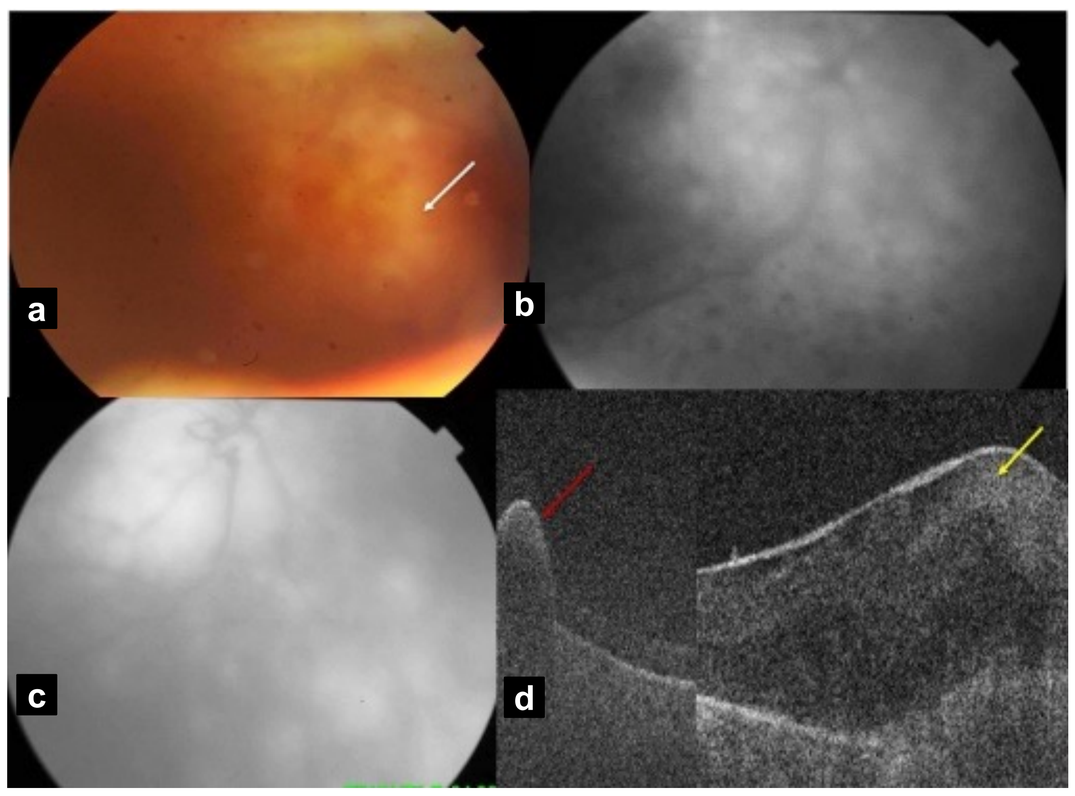

Figure 2 (A) Fundus photograph of the right eye of a 65-year-old patient showing dense vitritis and yellowish subretinal lesions (white arrow) (B) Fluorescein angiography of the RE showing multiple hyperfluorescent and hypofluorescent lesions with a "leopard spot" appearance with papillary leakage (C) OCT reveals hyperreflective subretinal lesions (red arrows) between RPE and Bruch's membrane with an undulating shape and an epiretinal membrane (yellow arrow).

CONCLUSION

- The diagnosis of PVRL is challenging.
- Multimodal imaging provides novel insights into features of PVRL.

References:

- Pulido JS, Johnston PB, Nowakowski GS, Castellino A, Raja H. The diagnosis and treatment of primary vitreoretinal lymphoma: a review. Int J Retina Vitreous. 2018 May 7;4:18.
- Levasseur SD, Wittenberg LA, White VA. Vitreoretinal lymphoma: a 20-year review of incidence, clinical and cytologic features, treatment, and outcomes. JAMA Ophthalmol 2013; 131:50–55.

CLINICAL PATTERN OF RETINITIS IN BEHÇET DISEASE

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INTRODUCTION

Retinitis affects more than 50% of patients with Behçet's uveitis. This study aimed to describe the clinical features of Behçet retinitis

MATERIALS AND METHODS

This is a retrospective descriptive study of 22 patients with Behçet disease presenting with acute retinitis.

FINDINGS

- The frequency of retinitis among all patients presenting with BD uveitis during the study period was 26%. The mean age of patients was 34 years (range, 12–53). The main presenting symptom was vision loss in 19 patients (76%). Panuveitis was the most common form of uveitis (21 eyes; 84%), followed by posterior uveitis (4 eyes ; 16%). Retinitis was unifocal in 10 eyes (40%) and multifocal in 15 eyes (60%) **(figure 1).** Retinal infiltrates involved the midperiphery in 14 eyes (56%), the posterior pole in 9 eyes (36%) and both the midperiphery and posterior pole in 2 eyes (8%) **(figure 2).**

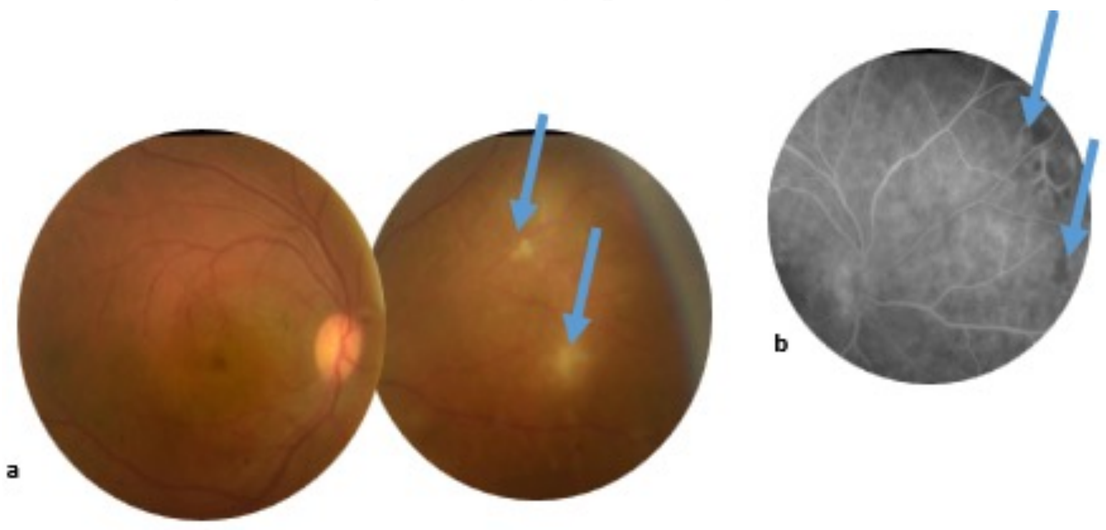

Figure 1 : A 35-year-old man presenting with panuveitis and multiple nasal retinal infiltrates (arrows) in the right eye (a). (b) Fluorescein angiography showing a fern-like retinal vascular leakage and hypofluorescence corresponding to retinal infiltrates.

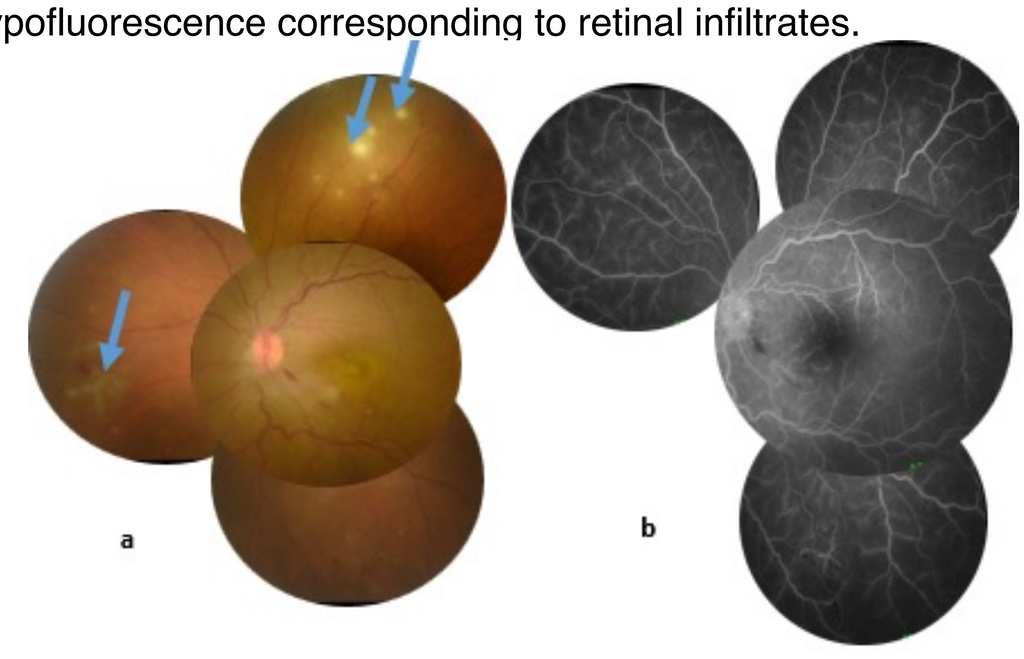

Figure 2 : A 44-year-old female patient presenting with panuveitis and multiple retinal infiltrates (arrows) in the posterior pole and the periphery (a) in the left eye. (b) Fluorescein angiography showing a fernlike retinal vascular leakage.

Lesion size was ≤ 1 disc area in 16 eyes (64%) and > 1 disc area in 9 eyes (36%). Occlusive retinal vasculitis was found in 9 eyes (36%) (figure 3). Fluorescein angiography showed in the area of acute retinitis a focal hypofluorecence with late staining in 90% of eyes (figure 3). There were no fluorescein angiography changes in 10% of eyes. There were associated fernlike retinal vascular leakage on fluorescein angiography in 17 eyes (68%) (figures 1, 2).

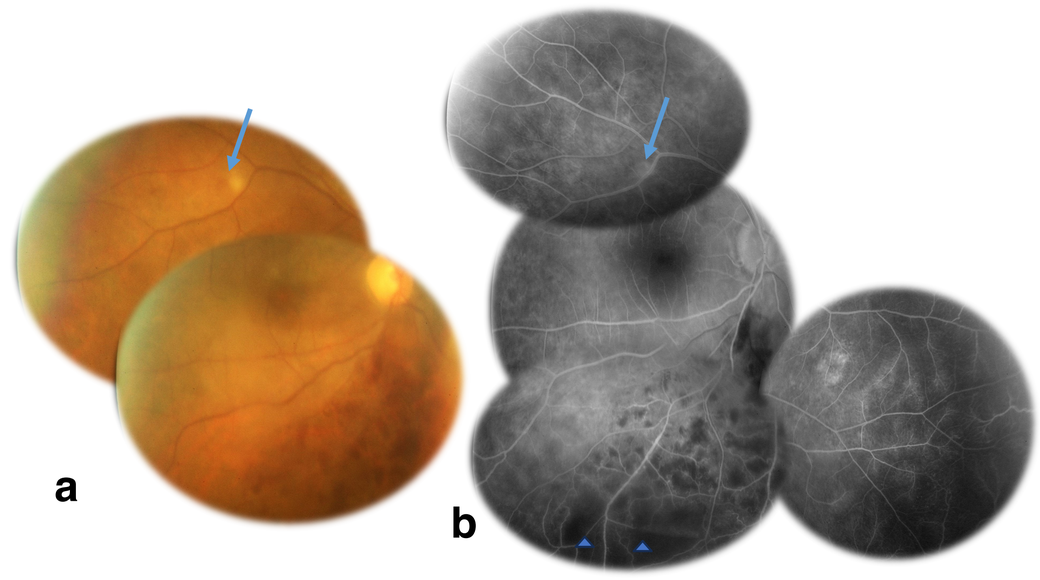

Figure 3 : A 46- year-old male patient presenting with unifocal retinitis (arrow) in the right eye associated with retinal hemorrhages in the inferior quadrant (a). (b) Fluorescein angiography showing late staining at the area of the retinitis (arrow) with peripheral non perfusion areas (arrow heads).

CONCLUSION

Behçet disease retinitis is more likely to occur at first presentation and is commonly associated with fern-like capillaritis, and a subset of eyes exhibits associated occlusive retinal vasculitis.

REFRENCES

1. Ksiaa I, Abroug N, Kechida M, Zina S, Jelliti B, Khochtali S, et al. Eye and Behçet's disease. J Fr Ophtalmol. avr 2019;42(4):e133-46.

2.Ksiaa I, Kechida M, Abroug N, Bchir S, Attia S, Khochtali S, et al. Changing pattern of clinical manifestations of Behçet's disease in Tunisia: comparison between two decades. Rheumatology. 30 avr 2020;58(2):87-92.

3.Razumova IYu, Godzenko AA. Behçet's disease and uveitis. Vestn Oftalmol. 2021;137(5):130.

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Cytomegalovirus retinitis in HIV-negative patients

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Introduction

Cytomegalovirus (CMV) is an ubiquitous herpesvirus. In immunocompromised individuals, CMV can cause severe opportunistic infections, with retinitis being the most common ocular manifestation , affecting approximately 20–40% of human immunodeficiency virus (HIV)-positive patients .

CMV retinitis may occur in patients despite immunocompetence.

The purpose of this study is to describe clinical characteristics of cytomegalovirus (CMV) retinitis in HIV-negative patients.

Methods

Retrospective study including 6 patients (10 eyes) who were HIV-negative and diagnosed with CMV retinitis in the department of Ophthalmology Fattouma Bourguiba University Hospital of Monastir.

Results

The mean age of patients was 43 years.

Immunodeficiency factors included: immunosuppressive treatment after kidney transplant (2 cases) , ulcerative colitis (2 cases), systemic corticosteroid overdose (1 case) , and chemotherapy for lymphoma(1 case).

The mean initial visual acuity was 20/40. The involvement was bilateral in 80% of cases.

The retinitis was fulminant with necrotic-hemorrhagic lesions in 4 eyes **(figure 1)** and indolent granular without hemorrhage in 6 eyes (**figure 2)**.

Associated signs included: anterior uveitis (4 eyes), mild to moderate vitritis in all cases, optic disc hyperemia (2 eyes), and multiple retinal arterial branch occlusions (1 eye) .

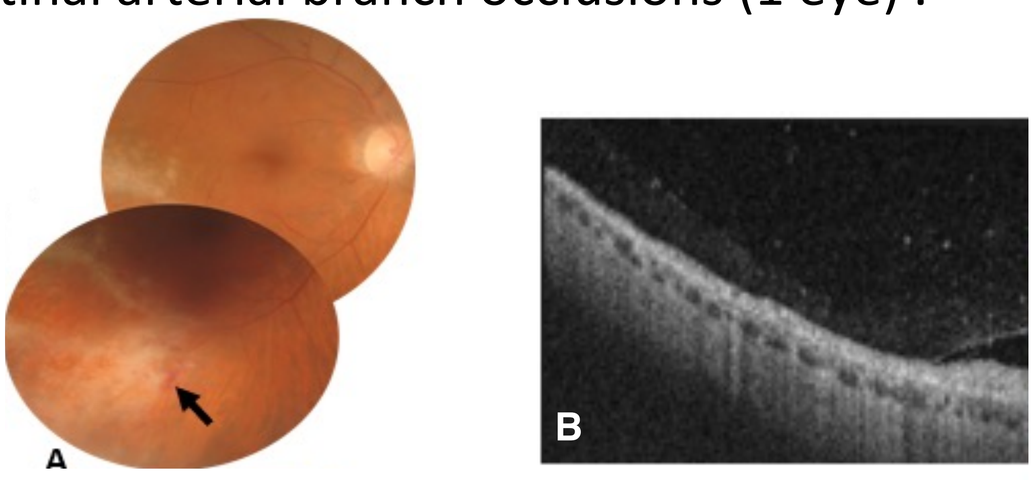

Figure 1 :
A: Fundus photography showing necrotic-hemorrhagic areas (arrow)
B: OCT B-scan showing hyperreflectivity with a thinning of all the retinal layers

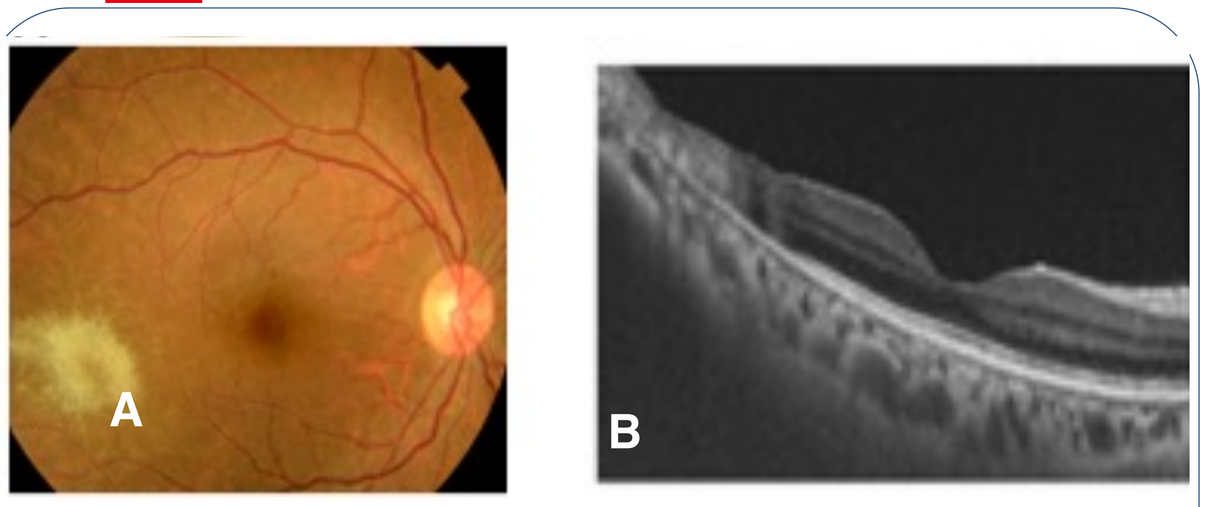

Figure 2:
A: Fundus photography showing a yellowish, granule-like focus in the temporal area.
B: OCT showing hyperreflectivity of all retinal layers.

The diagnosis of CMV retinitis was based on a highly suggestive clinical presentation and confirmed by identification of CMV in aqueous humor for 4 patients and serological tests for 2 patients.

All patients were treated with intravenous ganciclovir (for 10 to 15 days).

All patients received intravitreal ganciclovir in one eye (eye with more severe involvement in bilateral cases).

Conclusions

The incidence of CMV infection in HIV-negative patients is increasing. Diagnosis of CMV retinitis is clinical.

PCR analysis of aqueous or vitreous ocular fluid is indicated in atypical clinical presentations.

Visual outcomes may be poor despite aggressive appropriate treatment.

Refrences

1-Zhang J, Kamoi K, Zong Y, Yang M, Zou Y, Miyagaki M, Ohno-Matsui K. Cytomegalovirus Retinitis: Clinical Manifestations, Diagnosis and Treatment. Viruses. 2024 Sep 7;16(9):1427. doi: 10.3390/v16091427. PMID: 39339903; PMCID:PMC11437412.

2- Ho M., Invernizzi A., Zagora S., Tsui J., Oldani M., Lui G., McCluskey P., Young A.L. Presenting Features, Treatment and Clinical Outcomes of Cytomegalovirus Retinitis: Non-HIV Patients vs. HIV Patients. Ocul. Immunol. Inflamm. 2020;28:651–658. doi: 10.1080/09273948.2019.1604003

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Yield of vitreoretinal surgery in the diagnosis and management of uveitis

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Introduction

Identifying infectious or noninfectious uveitis is crucial for guiding treatment and prognosis. Diagnostic challenges arise with atypical history, unusual clinical presentations, inconclusive results, and persistent or worsening inflammation. In such cases, vitrectomy aids in accurate diagnosis and treatment by enabling fundus examination, analyzing vitreous samples, and clearing inflammatory factors [1].

Purpose

To assess the yield of pars plana vitrectomy (PPV) and vitreous fluid analysis in the diagnosis and management of patients with intraocular inflammatory disease.

Methods

Retrospective study including 40 patients diagnosed with uveitis. Vitreous biopsy **(Figure 1)** was performed in 13 eyes (32.5 %) and PPV **(Figure 2)** was performed in 36 eyes (90 %) for both diagnostic and therapeutic purposes. Vitreous specimens were simultaneously analyzed by microbiological culture, cytology, and polymerase chain reaction. In one eye, a retinal biopsy with histopathologic examination was performed.

Results

The mean patient age was 43+/- 17 years. Preoperative diagnoses were infectious uveitis in 19 patients (47.5 %) including toxoplasmosis chorioretinitis (n=2), ocular tuberculosis (n=5), Toxocariasis (n=1) and acute retinal necrosis (ARN) (n=11; 27.5%), malignant masquerade syndrome in 2 patients (5%), benign masquerade syndrome in 8 patients (20%), and non-infectious uveitis in 11 patients (27.5%) including Behcet disease (n=2), Eales disease (n=1) and idiopathic uveitis (n=8).

Vitreous analysis established a definitive diagnosis in 10 eyes (25%) including fungal endogenous endophthalmitis (n=6; 15%), bacterial endogenous endophthalmitis (n= 2; 5%), and primary vitreoretinal lymphoma (n=2; 5%). Therapeutic vitrectomy was performed in 32 eyes (80%). The most common indications were rhegmatogenous retinal detachments (n=15 eyes; 46.8%), persistent vitreous opacities (n=8 eyes; 25%), vitreous hemorrhage (n=5 eyes; 15.6%), epiretinal membrane causing vitreomacular traction (n=3 eyes; 9.3%), and macular hole (n=2 eyes; 6.25%) **(Figure 3**). Two eyes (6.25%) underwent concomitant cataract surgery. Overall, the visual acuity improved in 64% of eyes, remained unchanged in 20% of eyes, and decreased in 16% of eyes.

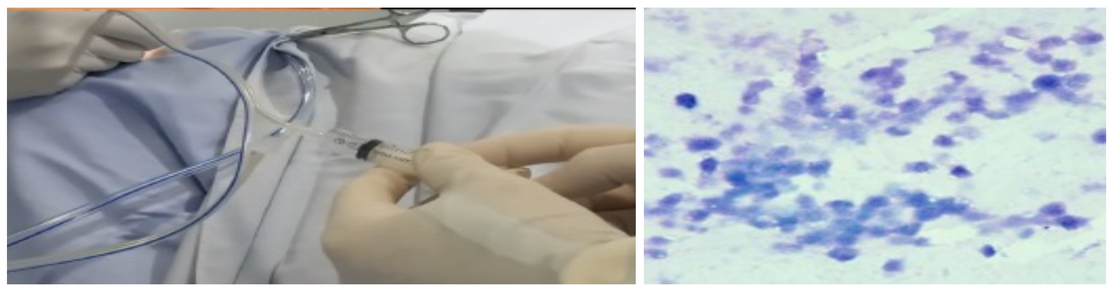

Figure 1 : Vitreous biopsy

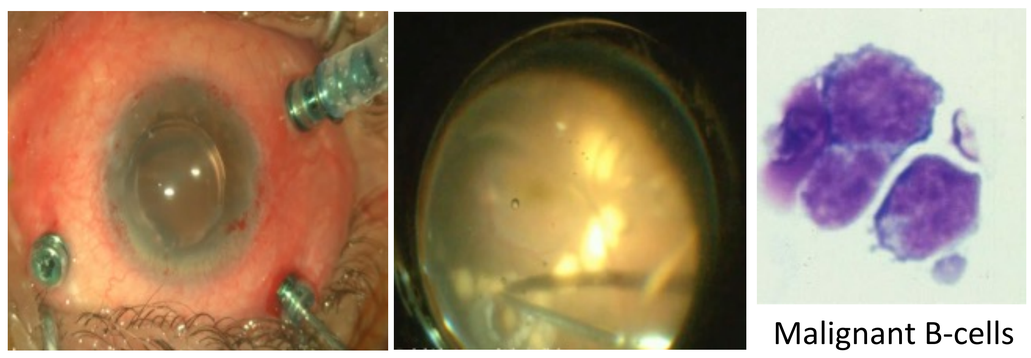

Figure 2 : Diagnostic vitrectomy + retinal biopsy

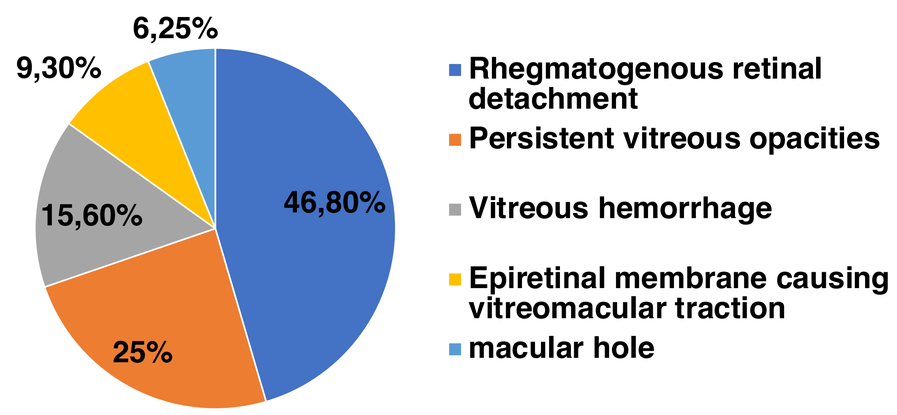

Figure 3 :Indications of pars plana vitrectomy (PPV) and vitreous fluid analysis in the diagnosis and management of patients with intraocular inflammatory disease

Conclusion

Analysis of vitreous fluid and PPV is a valuable tool in diagnosing uveitis of unknown etiology in selected cases including atypical history, unusual clinical presentation, inconclusive work-up results, and persistent or worsening inflammation.

In such cases with high concerns about an infectious or neoplastic origin, vitrectomy allows detailed fundus examination and vitreous sample analysis.

Moreover, the therapeutic effect of vitrectomy can improve the visual outcomes in patients with uveitis-related viteoretinal complications.

Refrences

[1] Sato T, Kinoshita R, Taguchi M, Sugita S, Kaburaki T, Sakurai Y, Takeuchi M. Assessment of diagnostic and therapeutic vitrectomy for vitreous opacity associated with uveitis with various etiologies. Medicine (Baltimore). 2018 Jan;97(2):e9491

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Optical Coherence Tomography Angiography Findings in Branch Retinal Arterial Occlusion Associated with Uveitis

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INTRODUCTION

To describe optical Coherence Tomography Angiography (OCTA) findings in eyes with branch retinal artery occlusion (BRAO) associated with posterior uveitis.

METHODS

This was a retrospective case series of four cases. All patients underwent a complete ophthalmological examination, fundus photography, fluorescein angiography, Swept source OCT (SS OCT) and SS OCTA.

FINDINGS

Case 1 (Figure 1): A 35-year-old female presented with blurred vision in the left eye (LE). Best corrected visual acuity (BCVA) was 20/20 in the right eye (RE) et 20/32 in the LE. **(Figure 1)**

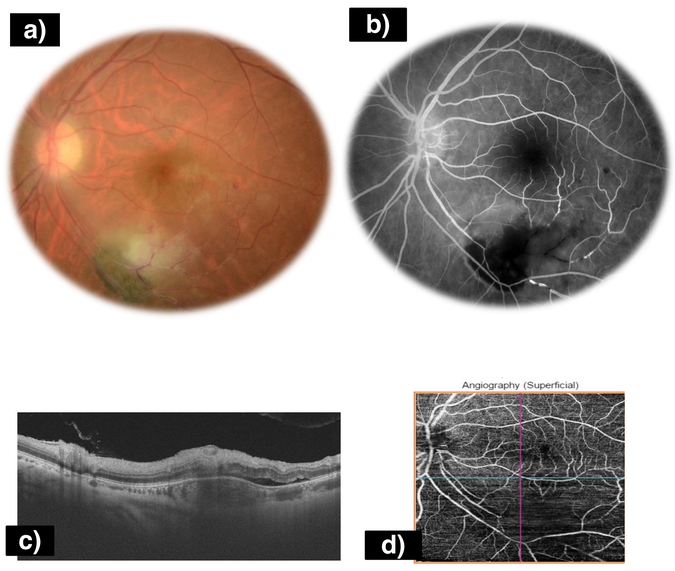

Figure 1: a) Fundus examination showed active toxoplasmic retinochoroiditis associated with adjacent scar located in the posterior pole inferiorly. **(b)** Early-phase fluorescein angiogram showed an area of hypofluorescence corresponding to the toxoplasmic retinochoroiditis lesion and an associated BRAO. (c) SS OCT scan passing through the active retinochoroiditis site showed thickening and hyperreflectivity of the inner retinal layers, RPE elevation, exudative retinal detachment, localized underlying choroidal thickening, and detachment of the posterior hyaloid. (d) SS-OCTA showed a non-detectable flow signal area larger than the lesion seen clinically due to the presence of associated BRAO at the level of the superficial and deep vascular plexuses.

Case 2: A 31-year-old female complained of vision blurring with a central scotoma in the LE. His medical history was notable for recent onset of fever and asthenia 2 weeks earlier. **(Figure 2)**

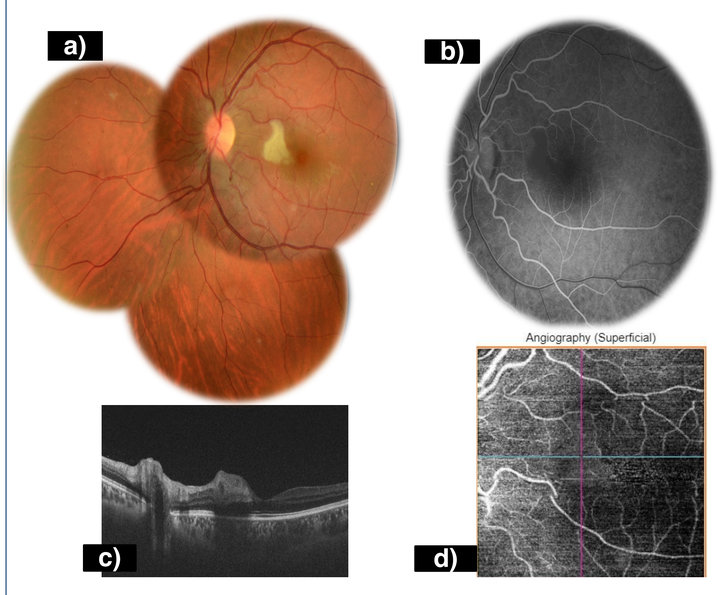

Figure 2: (a) Fundus photograph of the LE showed a sectoral area of retinal ischemic whitening and a multifocal retinitis in the LE (arrows). **(b)** Early FA angiogram confirmed the BRAO corresponding to the area of retinal ischemic whitening. **(c)** SS OCT scan through the area of retinal whitening showed increased inner retinal reflectivity. **(d)** SS-OCTA of the LE showed flow deficit in the superficial retinal plexus. The diagnosis of bilateral multifocal rickettsial retinitis complicated by BRAO in the LE was made. The indirect immunofluorescence test was positive for Rickettsia conorii. The patient was treated with doxycycline and corticosteroids with gradual tapering for 4 weeks.

Case 3 : A 33-year-old female was diagnosed with acute Vogt-Koyanagi-Harada (VKH) disease and was prescribed prednisolone (1 mg/ kg/day) and azathioprine (2.5 mg/kg/day). She mistakenly took an excessively high dose (4 mg/kg/day) of prednisolone for 14 days. The erroneous dose of corticosteroids was progressively corrected. Several weeks after initial presentation, the patient complained of decrease in vision in the RE. BCVA was 20/1000 in the RE and 20/80 in the LE. Slit lamp examination and multimodal imaging finding found an extensive occlusive arteritis in RE (**Figure 3**). An extensive work-up was performed. Results were all normal or negative. Real-time polymerase chain reaction on aqueous sample was positive for CMV DNA, confirming opportunistic CMV retinitis.

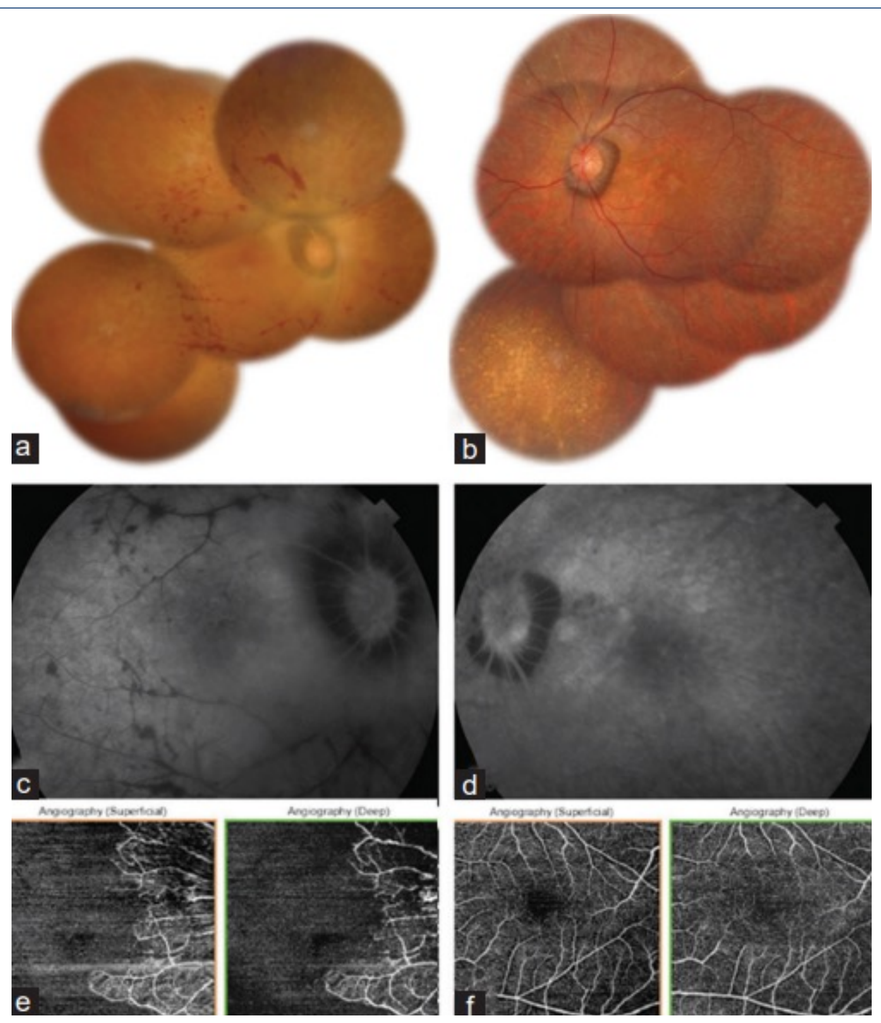

Figure 3 (a, b) Fundus photographs shows bilateral sunset-glow fundus, bilateral peripapillary subretinal fibrosis associated with RPE proliferation, diffuse vascular sheathing and narrowing with multiple retinal haemorrhages in the RE, and a patch of granular retinitis in the inferonasal periphery of the left eye LE, consistent with CMV retinitis. **(c, d)** Late-phase fluorescein angiograms reveal occlusion of the main retinal arterial branches in the RE, and optic disc hyperfluorescence OU. Note the presence of a peripapillary hypofluoresence due to the masking effect of peripapillary RPE proliferation. **(e, f)** Swept-source OCT angiography shows a diffuse loss of microvasculature in the superficial and deep retinal capillary plexuses in the RE, and projection of superficial vessels onto the deep capillary plexus in the LE.

Case 4 (Figure 4) : A 33-year-old woman, with unremarkable past medical history, was referred to our department for the evaluation of BRAO in the RE which had occurred 8 months earlier.

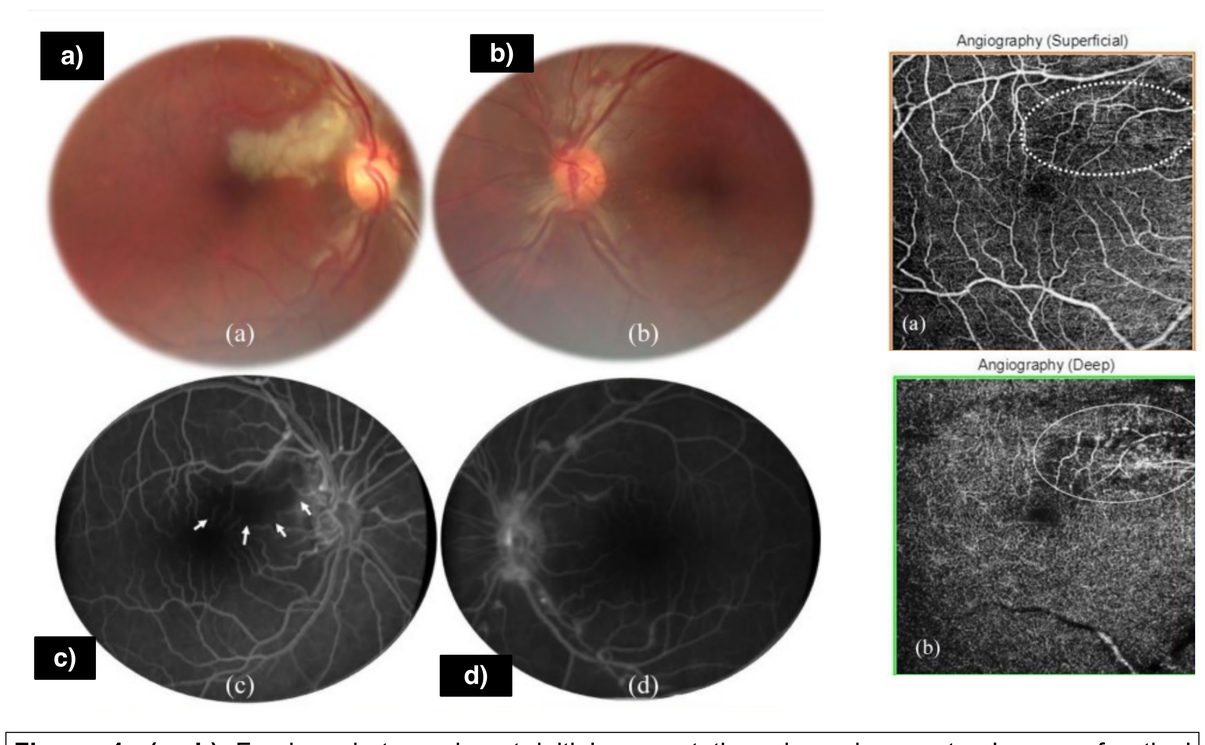

Figure 4: (a, b) Fundus photographs at initial presentation showed a sectoral area of retinal opacification associated with cottonwool spots adjacent to the superotemporal arcade close to the optic disc indicating BRAO in the RE (a). A diagnosis of underlying IRVAN syndrome was made based on the presence of arteriolar aneurysms on the optic disc and along major arterioles and faint retinal hard exudates in both eyes (**c,d**). **(e, f)** OCT-A of the RE, 8 months after the initial presentation, showied hypointense grayish areas of retinal capillary hypoperfusion in the retinal sector of resolved BRAO (white dashed circle) (e). The deep capillary plexus, more severely involved, shows a gross capillary loss with visibility of superficial retinal vessels seen as projection artifacts (white continued circle) (f).

CONCLUSIONS

- Inflammatory BRAO may either manifest at the location of an ongoing retinitis or retinochoroiditis lesion or be attributed to perivasculitis.[1]
- OCTA imaging provides a detailed view of the retinal microvasculature and allows non-invasive monitoring of vascular flow in the affected arterial branch.[2] OCTA may replace FA for the evaluation of BRAO associated with uveitis.

References
1.Kahloun R, Mbarek S, Khairallah-Ksiaa I, Jelliti B, Yahia SB, Khairallah M. Branch retinal artery occlusion associated with posterior uveitis. J Ophthalmic Inflamm Infect. déc 2013;3(1):16.
2.Yang S, Liu X, Li H, Xu J, Wang F. Optical coherence tomography angiography characteristics of acute retinal arterial occlusion. BMC Ophthalmol. déc 2019;19(1):147.0

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CLINICAL AND OCT PATTERN OF COMMOTIO RETINAE

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Department of Ophthalmology, Fattouma Bourguiba University Hospital, Faculty of Medicine, University of Monastir, Tunisia

Introduction

The purpose of our study is to describe the clinical and OCT features of Commotio retinae in the acute and sequelae phases.

Methods

Clinical examination and SS-OCT imaging results were collected from 14 patients (14 eyes) diagnosed with Commotio retinae in the acute phase and during follow-up.

Results

The mean age of patients was 22 ± 11.6 years. The sex-ratio was 3.7. Mean visual acuity at presentation was 20/80 ranging from 20/2000 to 20/22. Fundus examination showed retinal whitening in the macular region in 71.4% of cases, peripheral whitening with no macular involvement in 14.3% of cases; and both macular and peripheral involvement in 14.3% of cases. Photoreceptor damage was assessed and classified according to Ahn et al's OCT-based classification. OCT showed macular involvement in 85.7% of eyes, of them 50% showed grade 1 photoreceptor damage characterized by an increase in the reflectivity of the ellipsoid zone (EZ). Grade 2, defined by the presence of interdigitation zone (IZ) defects ,was seen in 8.3% of eyes.

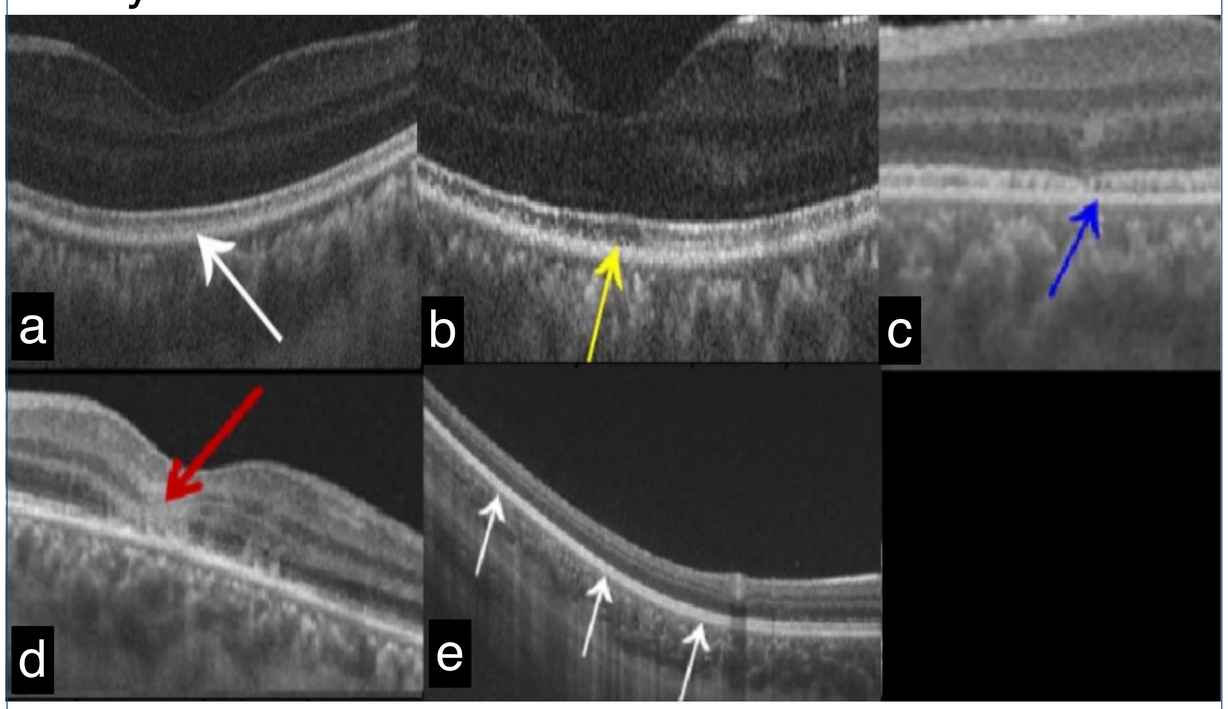

Figure 1: OCT pattern at presentation
Macular OCT shows grade 1 macular commotio (a) with an increase in the reflectivity of the ellipsoid zone (EZ). Macular OCT of Grade 2 macular commotio (b) shows interdigitation zone (IZ) defect. Macular OCT shows grade 3 macular commotio (c) presented as IZ and EZ Defect. Macular OCT of Grade 4 macular commotio (d) shows IZ, EZ and ELM defect. Macular OCT of peripheral Commotio retinae (e) shows an increased reflectivity of the EZ

Grade 3, characterized by defects in both the IZ and EZ, was found in 8.3% of eyes. Grade 4, characterized by defects in the IZ, EZ, and external limiting membrane, was seen in 33.3% of patients. In patients with peripheral Commotio retinae (14.3%) an increased reflectivity of the EZ was found. On follow-up, patients with grade 1 and grade 2 macular Commotio retinae, as well as those with peripheral involvement, achieved a final visual acuity of 20/20. In contrast, patients with grade 3 and grade 4 had a final visual acuity below 20/40.

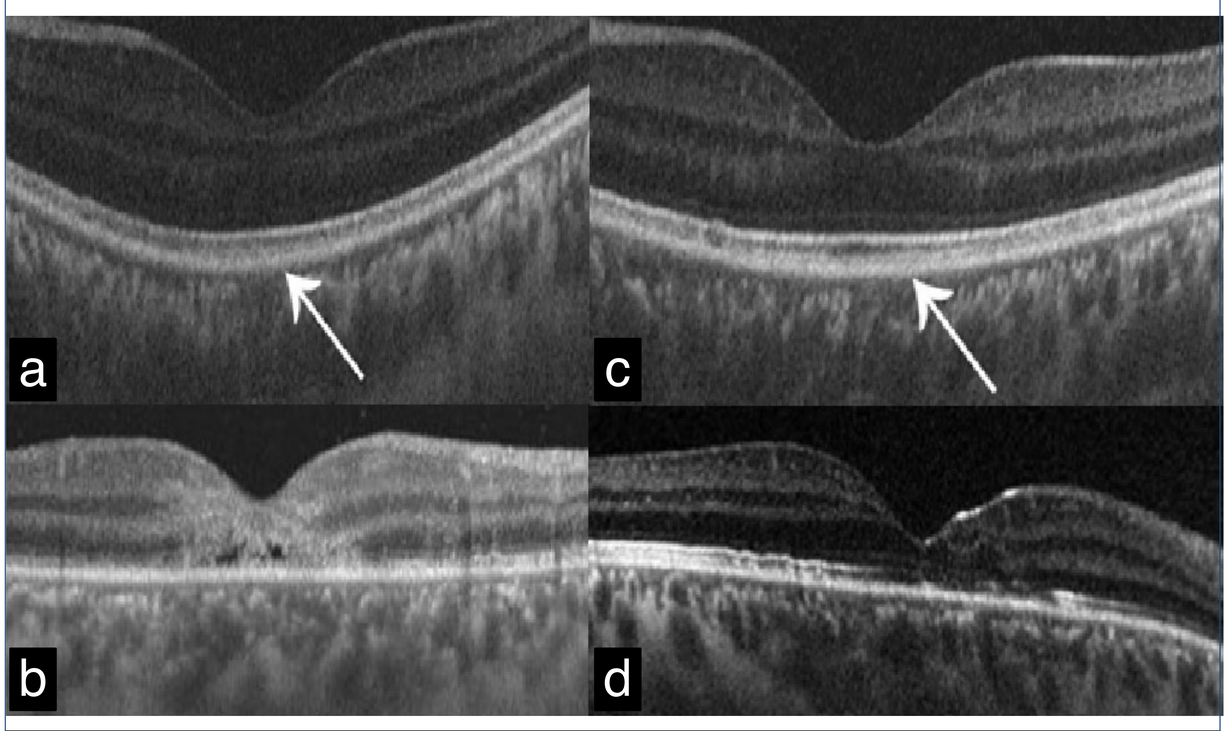

Figure 2: OCT pattern 4 weeks post-trauma.
Macular OCT of Grade 1 macular commotio (a) and its evolution (b) showing the resolution of photoreceptor layers defect after four weeks follow up. Macular OCT of Grade 3 macular commotio (c) and its evolution demonstrating the thinning of the ONL ,intraretinal hyperreflective spots and photoreceptor layers defect at four weeks follow up (d)

Conclusions

Commotio retinae commonly affects the macula, and the initial visual acuity appears to be inversely related to the severity of photoreceptor damage. Severe macular involvement on swept-source OCT (grades 3 and 4) is associated with limited visual recovery

References

1- Park JY, Nam WH, Kim SH, Jang SY, Ohn YH, Park TK. Evaluation of the central macula in commotio retinae not associated with other types of traumatic retinopathy. Korean J Ophthalmol. 2011 Aug;25(4):262-7. doi: 10.3341/kjo.2011.25.4.262. Epub 2011 Jul 22. PMID: 21860574; PMCID: PMC3149138.

2- Ahn SJ, Woo SJ, Kim KE, Jo DH, Ahn J, Park KH. Optical coherence tomography morphologic grading of macular commotio retinae and its association with anatomic and visual outcomes. Am J Ophthalmol. 2013 Nov;156(5):994-1001.e1. doi: 10.1016/j.ajo.2013.06.023. Epub 2013 Aug 20. PMID: 23972302.

BISPHOSPHONATE INDUCED BILATERAL POSTERIOR SCLERITIS: A RARE CASE PRESENTATION

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VITREO RETINAL SPECIALIST
ARUNODAYA DESERET EYE HOSPITAL
GURUGRAM
HARYANA, INDIA

NO FINANCIAL INTEREST

SYMPTOMS

- 76 YR OLD FEMALE
- PRESENTED ON 12.8.2021
- REDNESS
- SWELLING
- BLURRED VISION
- PAIN
- BOTH EYES
- SINCE 4 DAYS

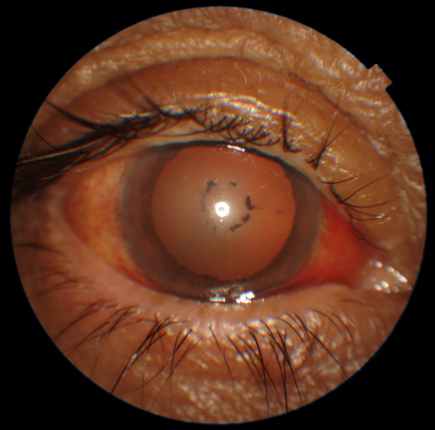
PAST HISTORY

- LEFT SIDED RADICAL MASTECTOMY DONE FOR CA BREAST 21.6.2021

EXAMINATION

- LID EDEMA
- CIRCUM CORNEAL CONGESTION
- CHEMOSIS
- SUBCONJUNCTIVAL HEMORRHAGE
- CORNEAL EDEMA / DM FOLDS
- FIBRINOUS AC REACTION
- POSTERIOR SYNECHIAE
- PIGMENTS OVER LENS
- CATARACT
- BCVA: OD 20/40
  OS 20/60P
- IOP (GAT): OD 25 MM HG
  OS 23 MM HG

OD



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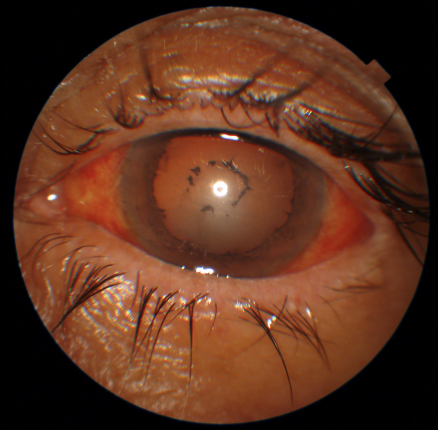
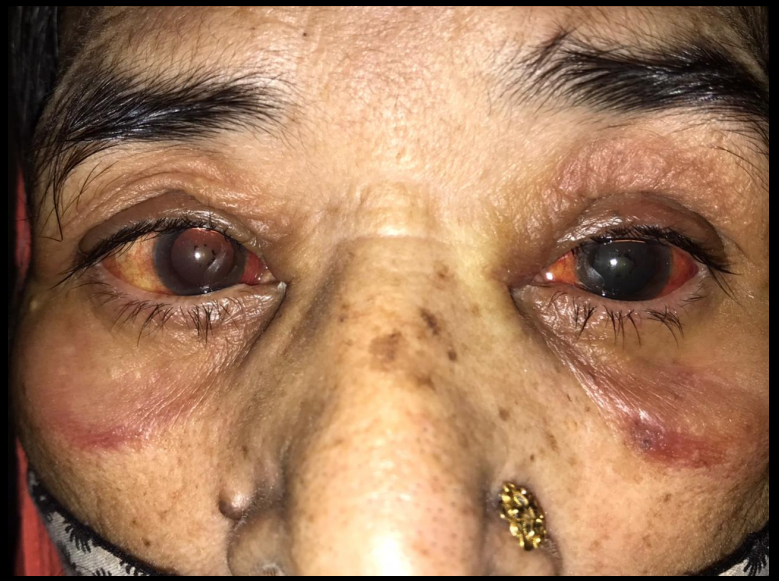
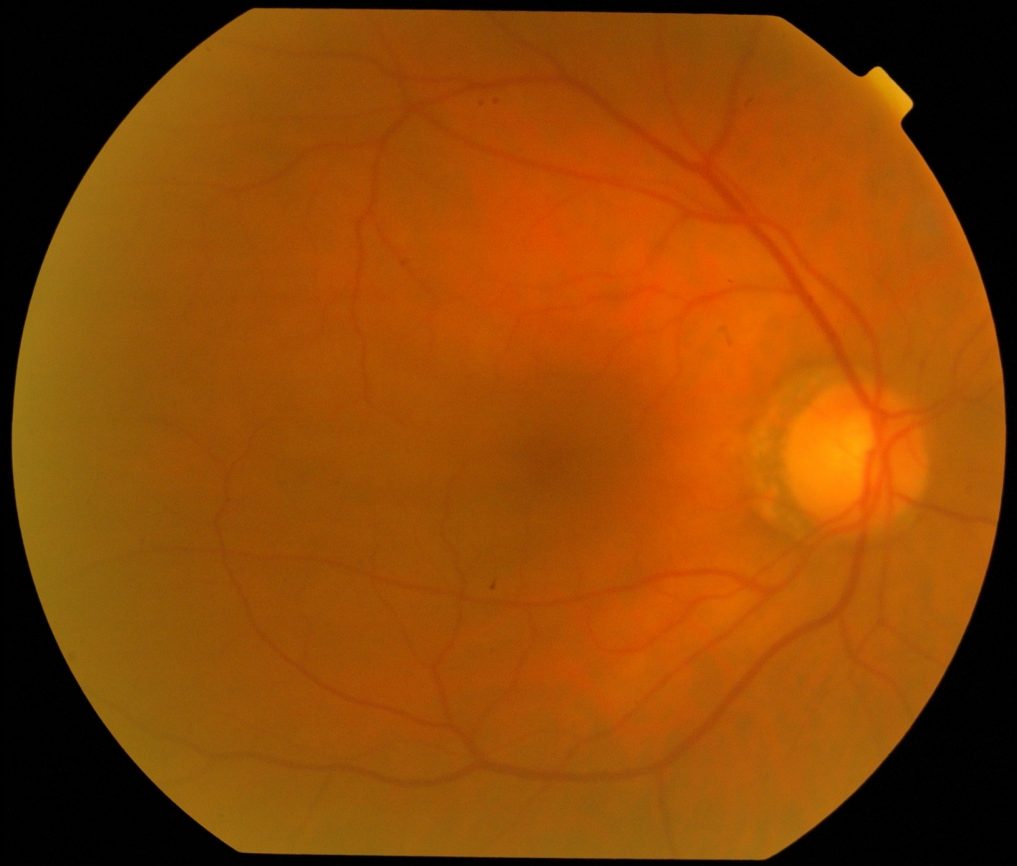




FUNDUS EXAMINATION

OD



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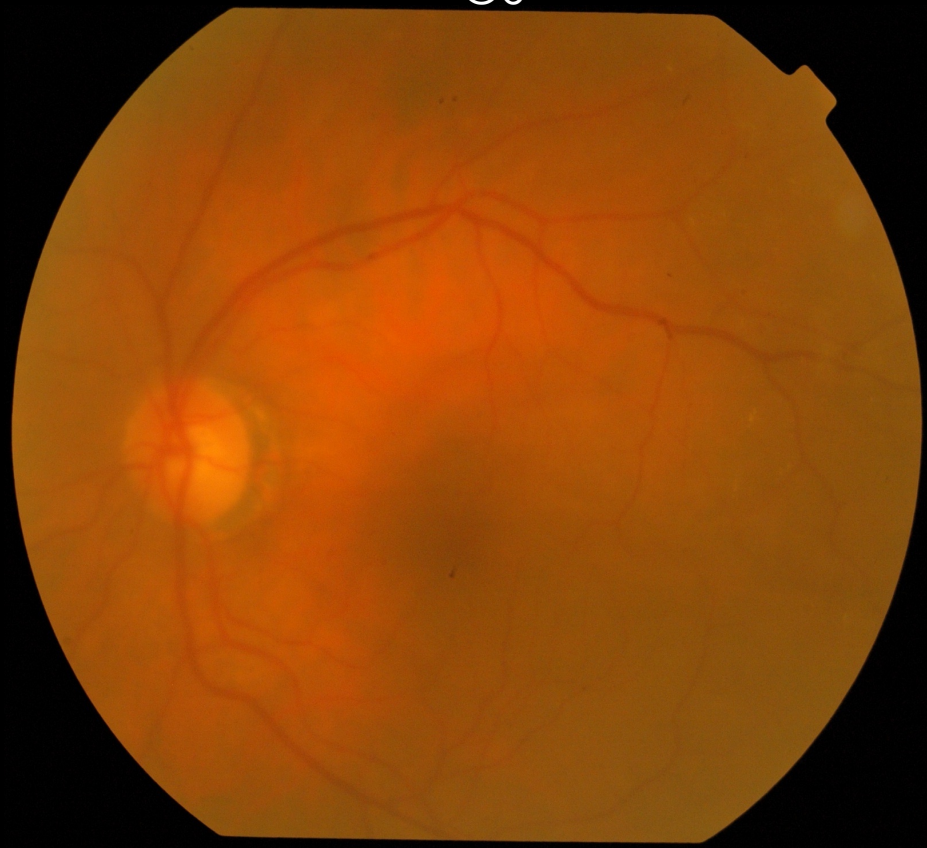
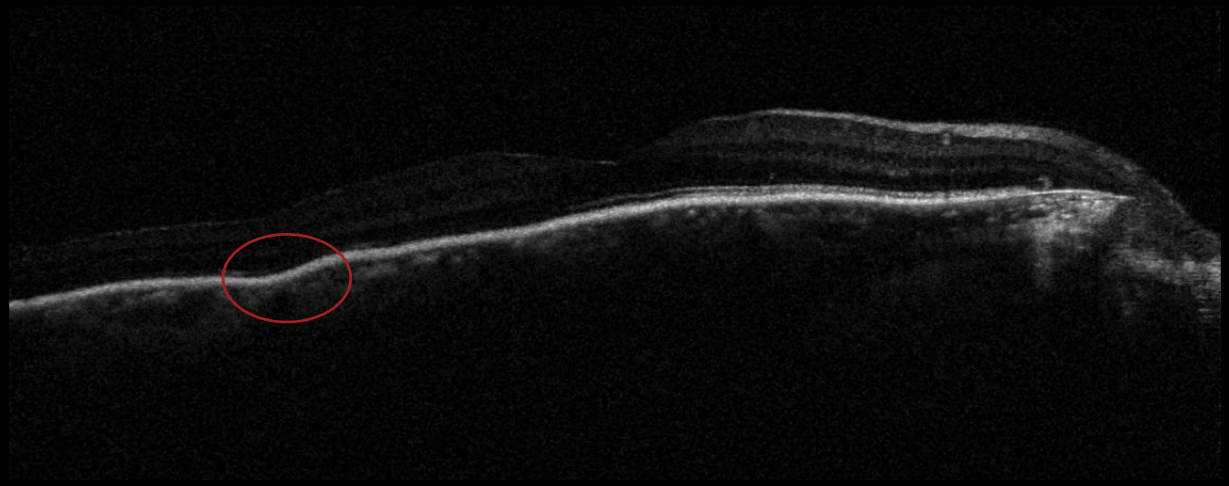


HAZY VIEW, VITREOUS CLEAR, DISC NORMAL, FR ABSENT

? CHOROIDAL FOLDS

OCT MACULA

OD



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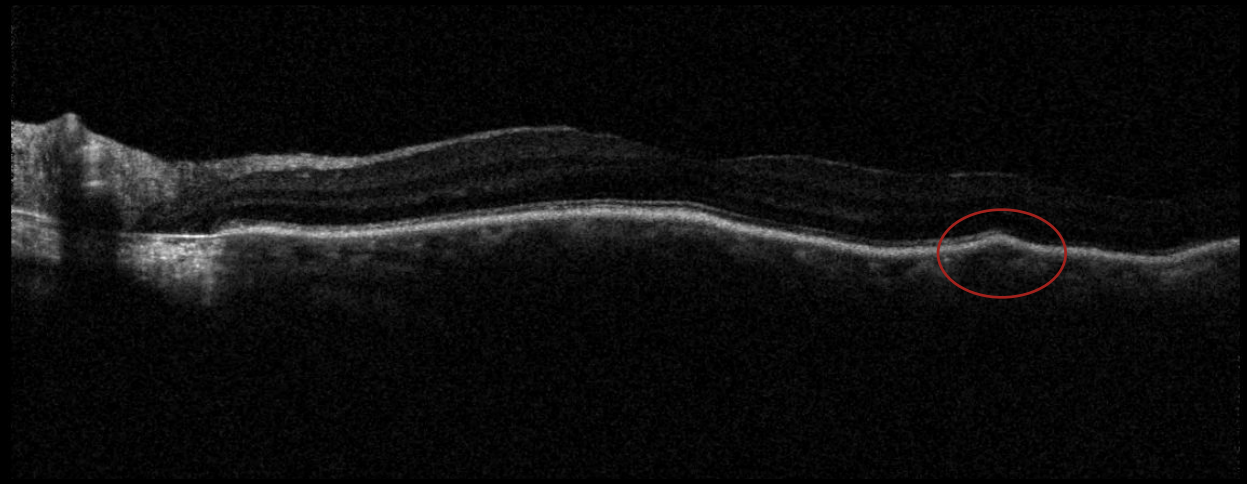
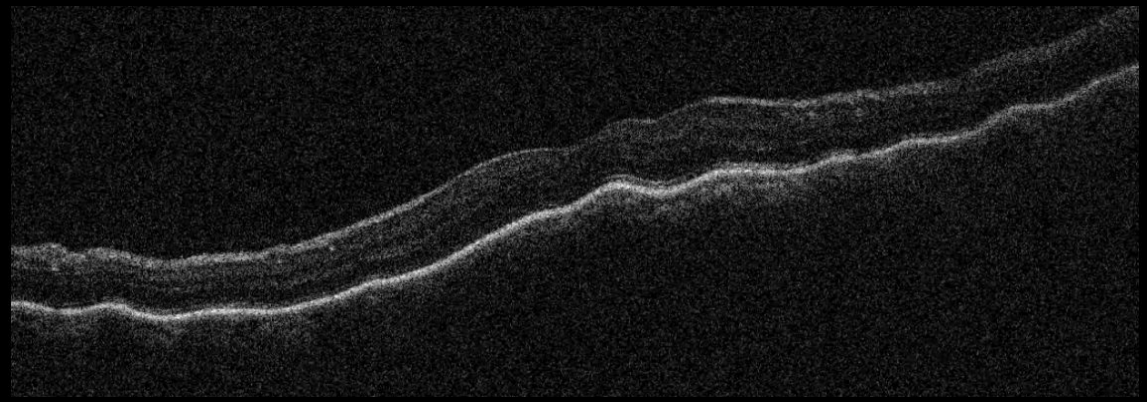


CHOROIDAL FOLDS

VERTICAL OCT SCANS

OD



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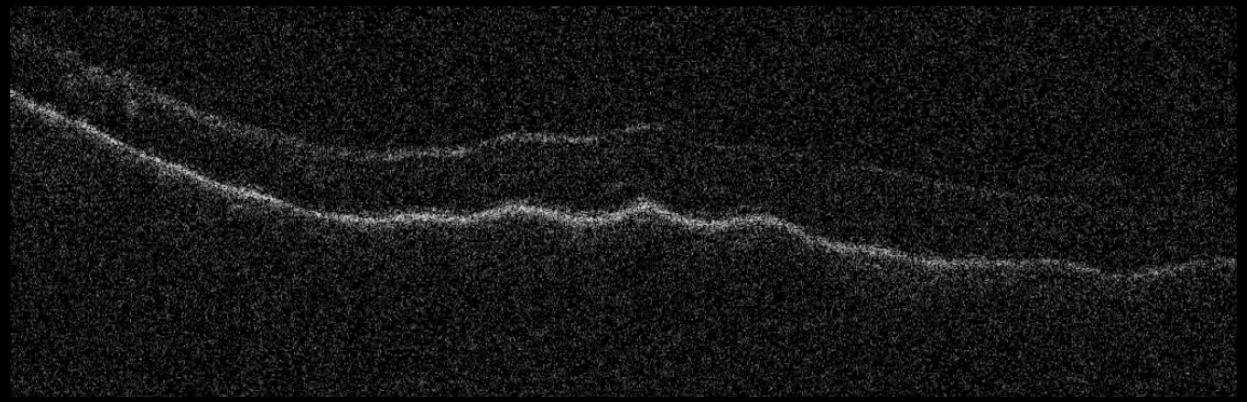
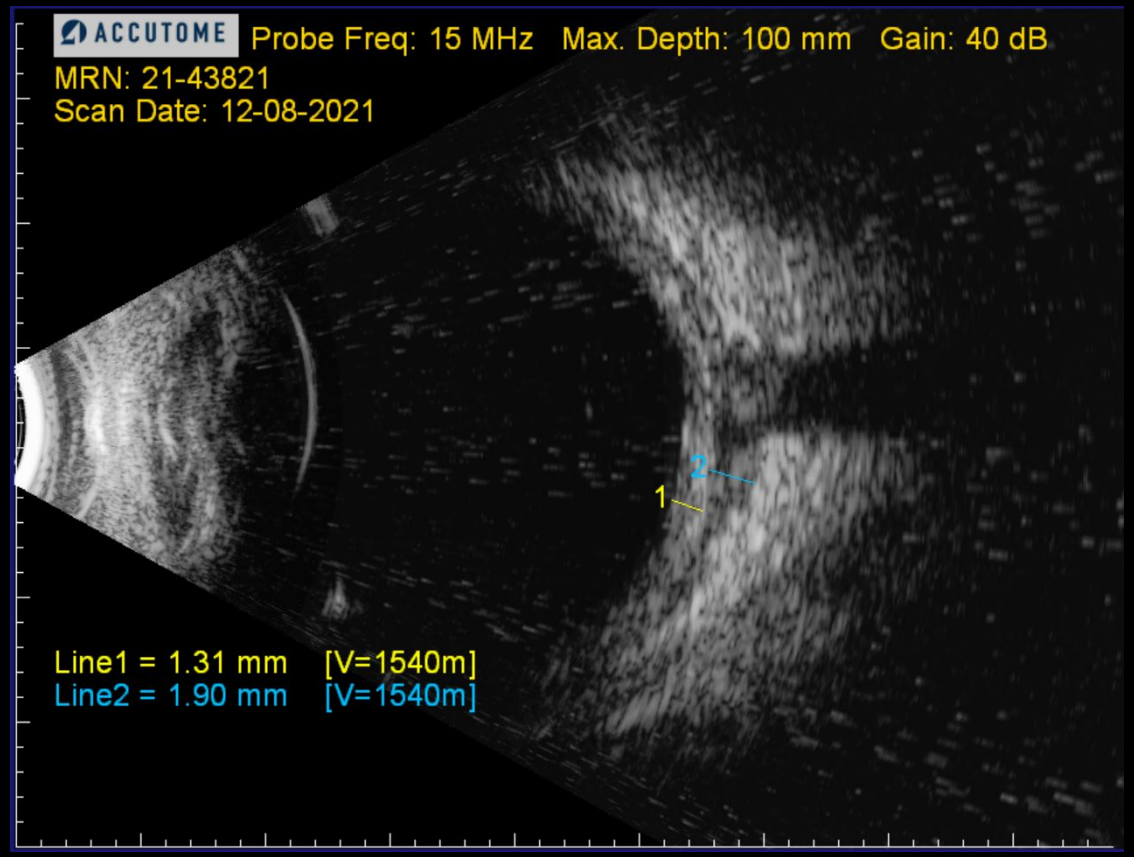


MORE PROMINENT CHOROIDAL FOLDS

B SCAN BOTH EYES

OD



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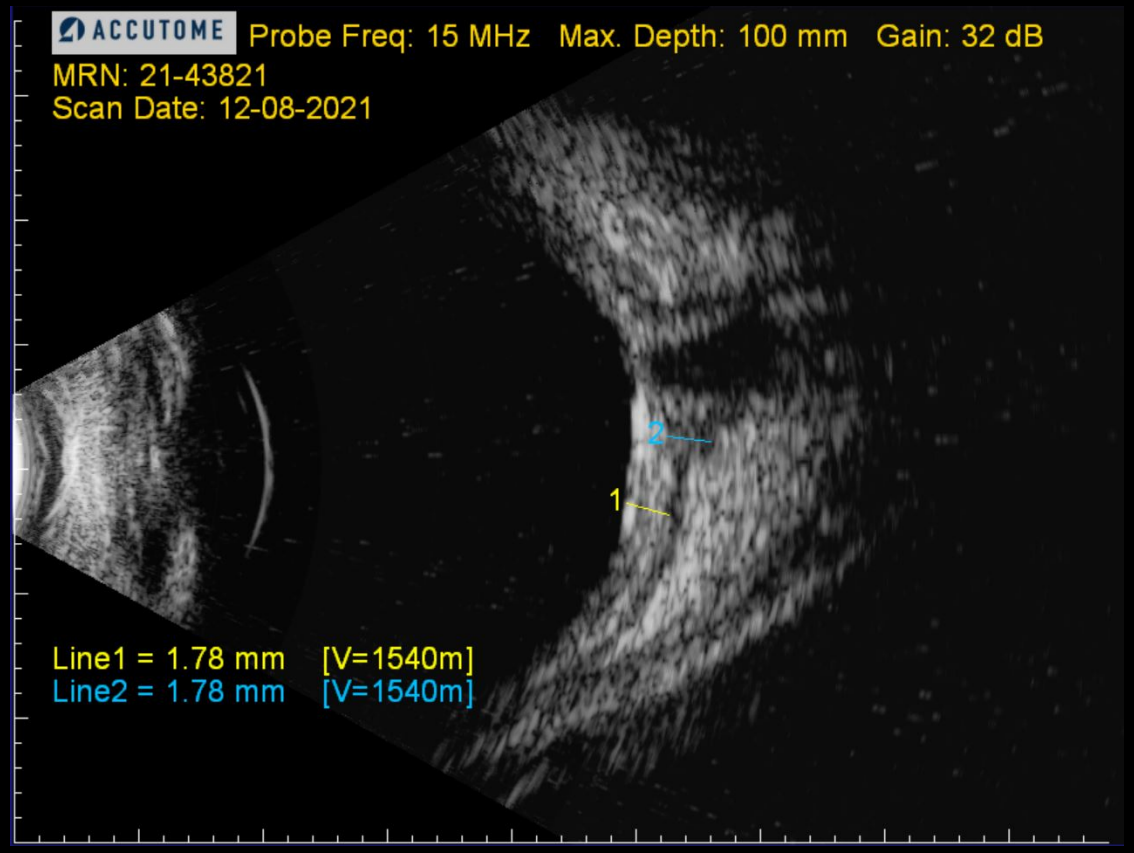

THICKENED RCS COMPLEX, GROSS SUBTENON'S FLUID, FLUID AROUND ONH SHEATH
T SIGN +

PROVISIONAL DIAGNOSIS

- BILATERAL POSTERIOR SCLERITIS
- CAUSE?

DID WE MISS SOMETHING?

BACK TO HISTORY

- LEFT SIDED RADICAL MASTECTOMY DONE FOR CA BREAST 21.6.2023
- CHEMOTHERAPY FOR BREAST CA
- INJ ZOLEDRONIC ACID 4 MG INFUSION WAS TAKEN 3 DAYS BEFORE SYMPTOMS STARTED

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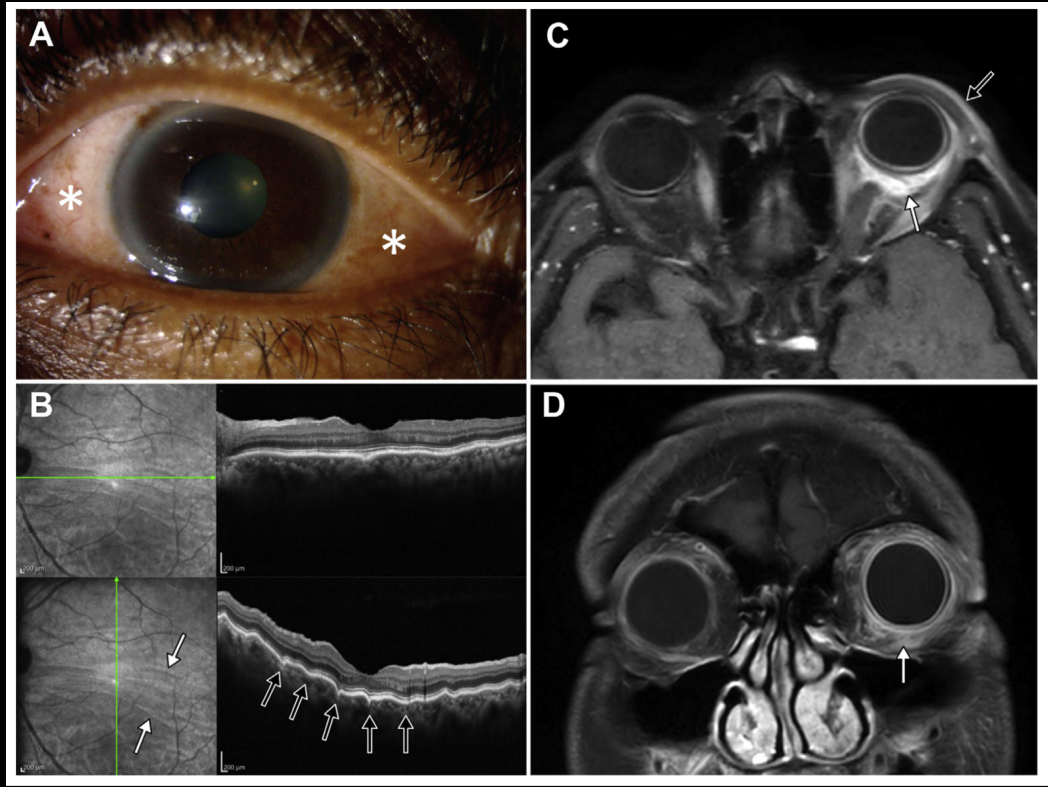
PICTURES & PERSPECTIVES | VOLUME 128, ISSUE 3, P371, MARCH 01, 2021

Bisphosphonate-induced Posterior Scleritis

Corentin Provost, MD, MSc • Thomas Sené, MD • Augustin Lecler, MD, PhD

DOI: https://doi.org/10.1016/j.ophtha.2020.09.041



Bisphosphonate-induced Posterior Scleritis

A 62-year-old woman presented with pain and redness in her left eye 1 week after receiving her first zoledronic acid infusion for osteoporosis. Slit-lamp examination showed conjunctival chemosis (Fig **A**, *asterisks*), and OCT showed choroidal folds (Fig **B**, *arrows*). Contrast-enhanced magnetic resonance imaging (MRI) showed proptosis of the left globe, orbital soft tissue thickening (Fig **C**, *black arrow*), and intraorbital enhancement (Fig **C-D**, *white arrows*). Clinical presentation, MRI findings, and timing of symptoms with regard to the zoledronic acid infusion were highly suggestive of bisphosphonate-induced posterior scleritis. Adverse reactions to intravenous bisphosphonates have been reported as a cause of orbital/ocular inflammation (Magnified version of Fig **A-D** is available online at www.aaojournal.org).

DIAGNOSIS

- ZOLEDRONIC ACID INDUCED POSTERIOR SCLERITIS

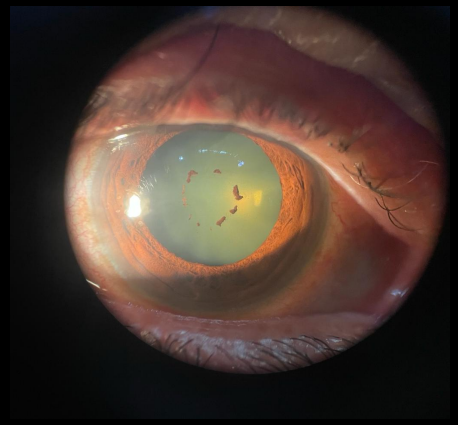
MANAGEMENT

- ORAL STEROIDS (1 MG / KG BODY WEIGHT)
- STOP ZOLEDRONIC ACID INFUSION (AFTER ONCOLOGIST CONSULT)
- TOPICAL STEROIDS AND CYCLOPLEGICS FOR ANTERIOR SEGMENT INFLAMMATION

EXAMINATION (2 DAYS LATER)

- REDUCED LID EDEMA
- REDUCED CIRCUM CORNEALCONGESTION
- MILD CORNEAL EDEMA
- AC REACTION - RESOLVED FIBRIN
- POSTERIOR SYNECHIAE
- PIGMENTS OVER LENS
- CATARACT
- BCVA: OD 20/20
  OS 20/20P
- IOP (GAT): OD 15 MM HG
  OS 12 MM HG

OD



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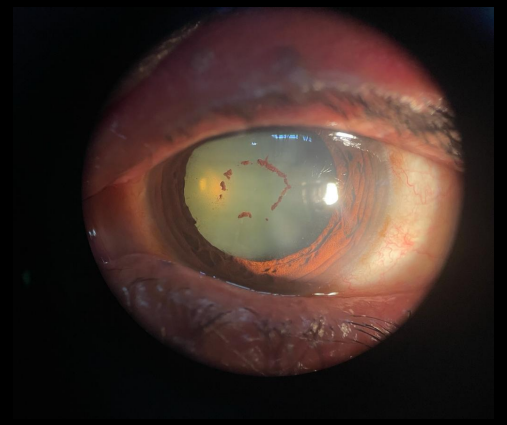
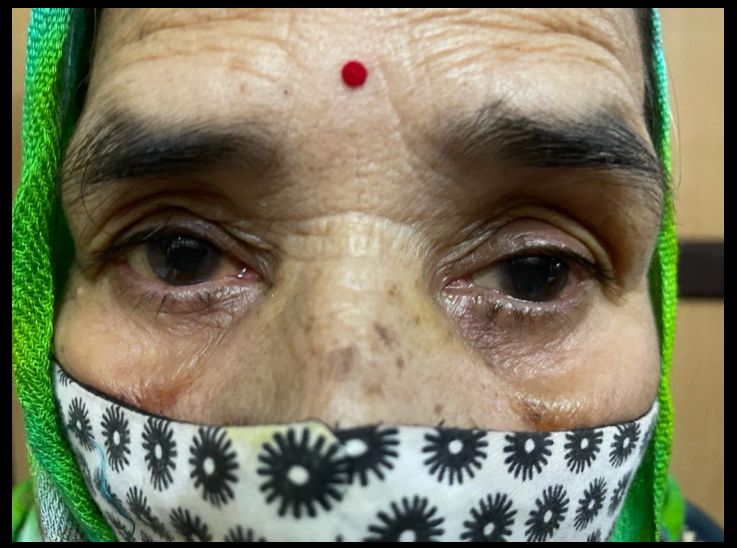
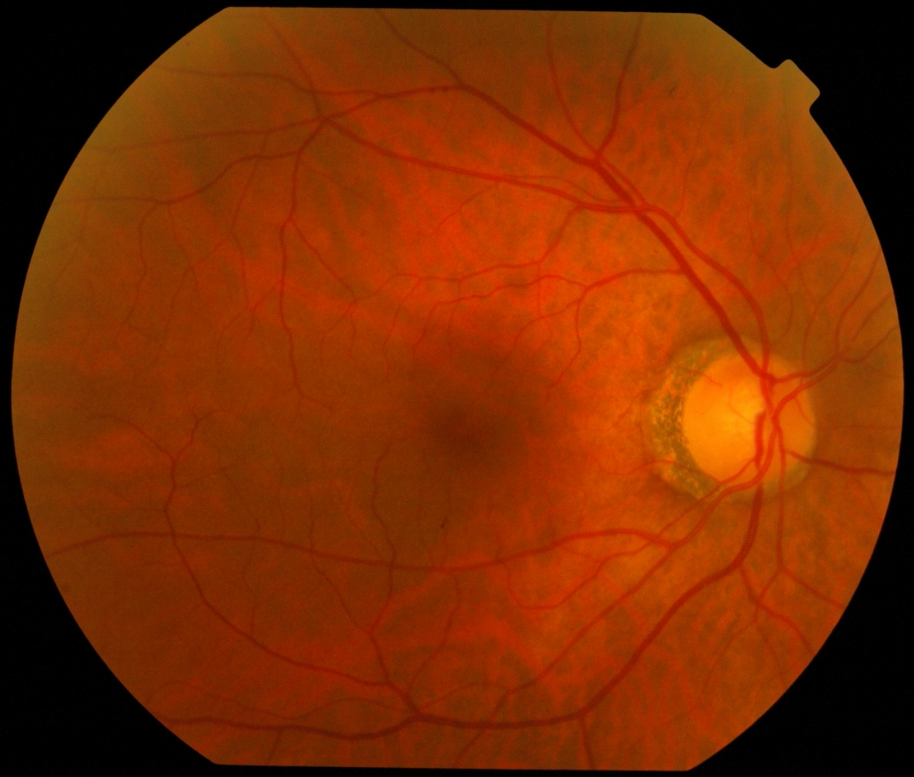




FUNDUS EXAMINATION

OD



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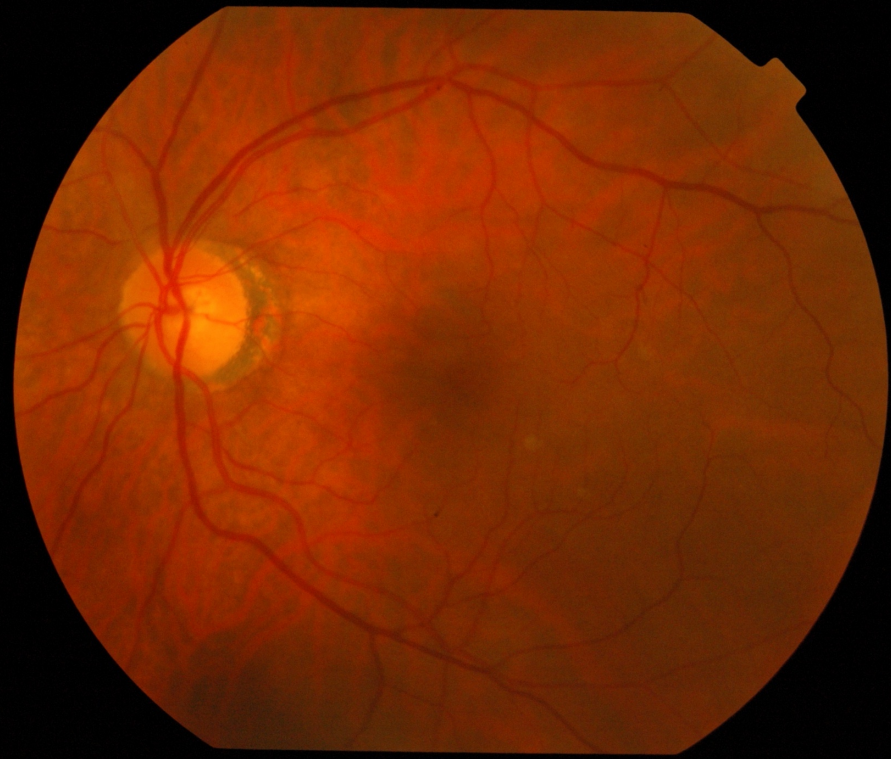
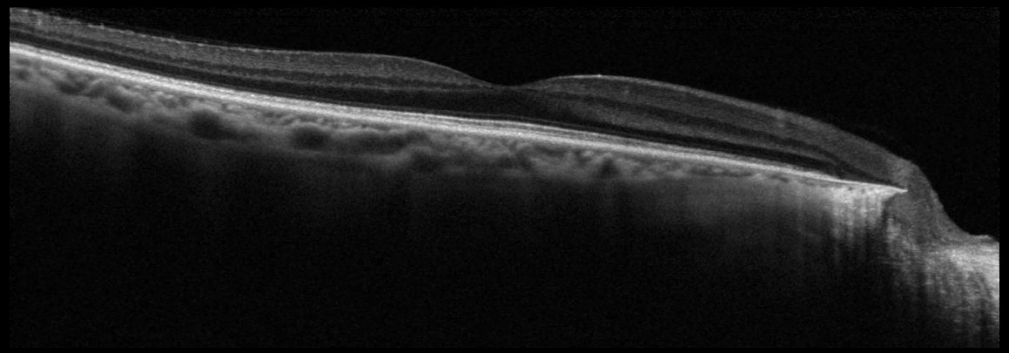


CLEAR VIEW, VITREOUS CLEAR, DISC NORMAL, FR ABSENT

ABSENT CHOROIDAL FOLDS

OCT MACULA

OD



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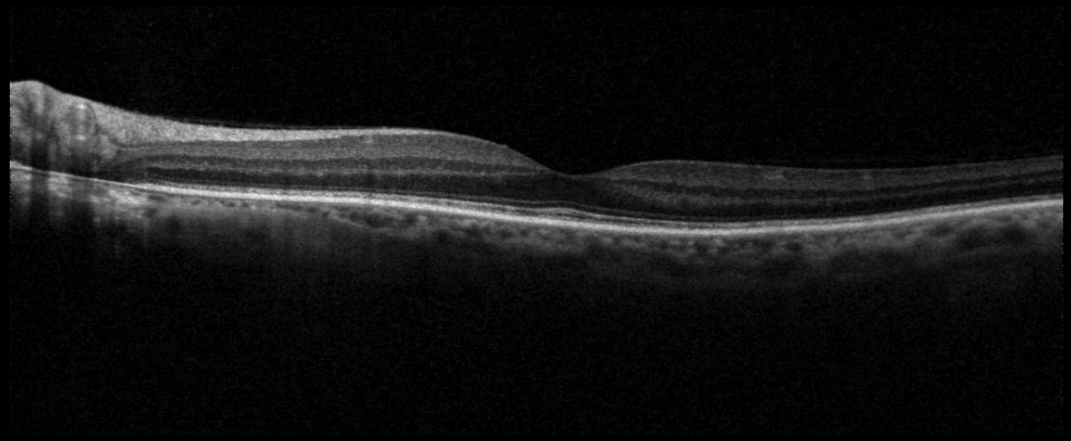
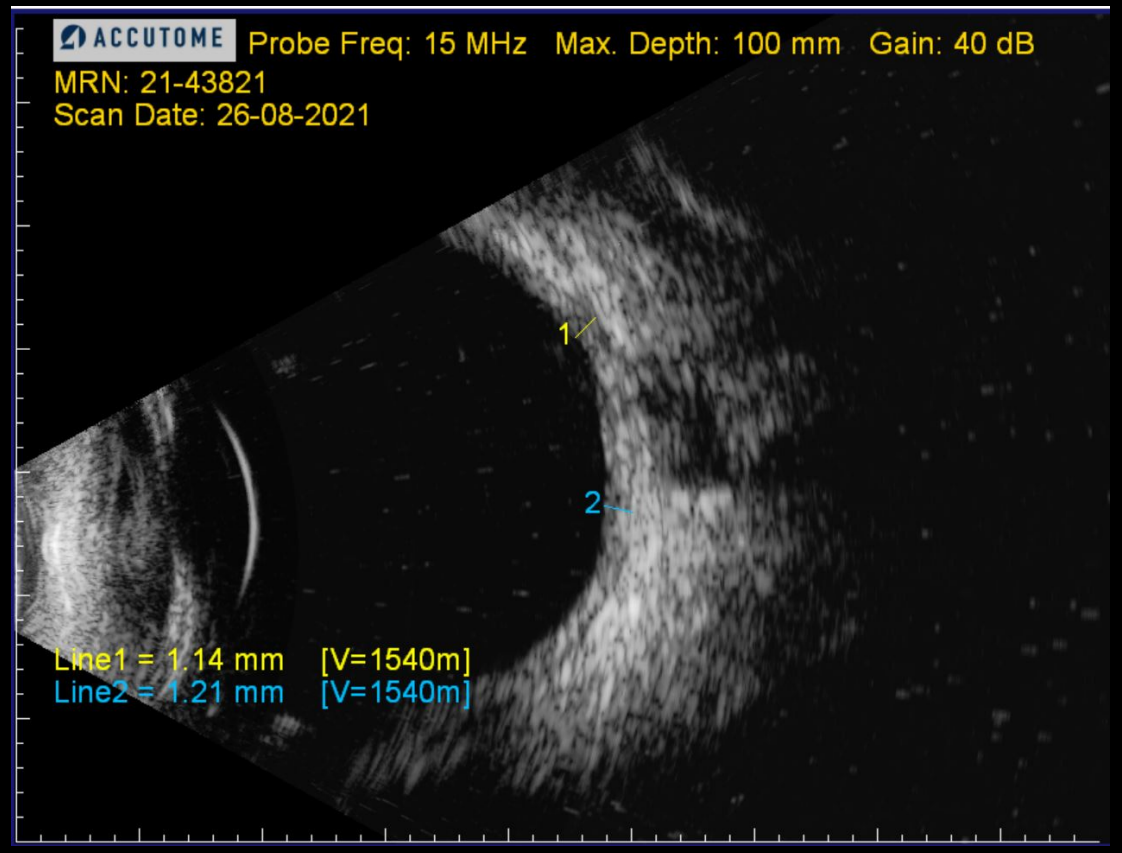


RESOLVED CHOROIDAL FOLDS

B SCAN BOTH EYES

OD



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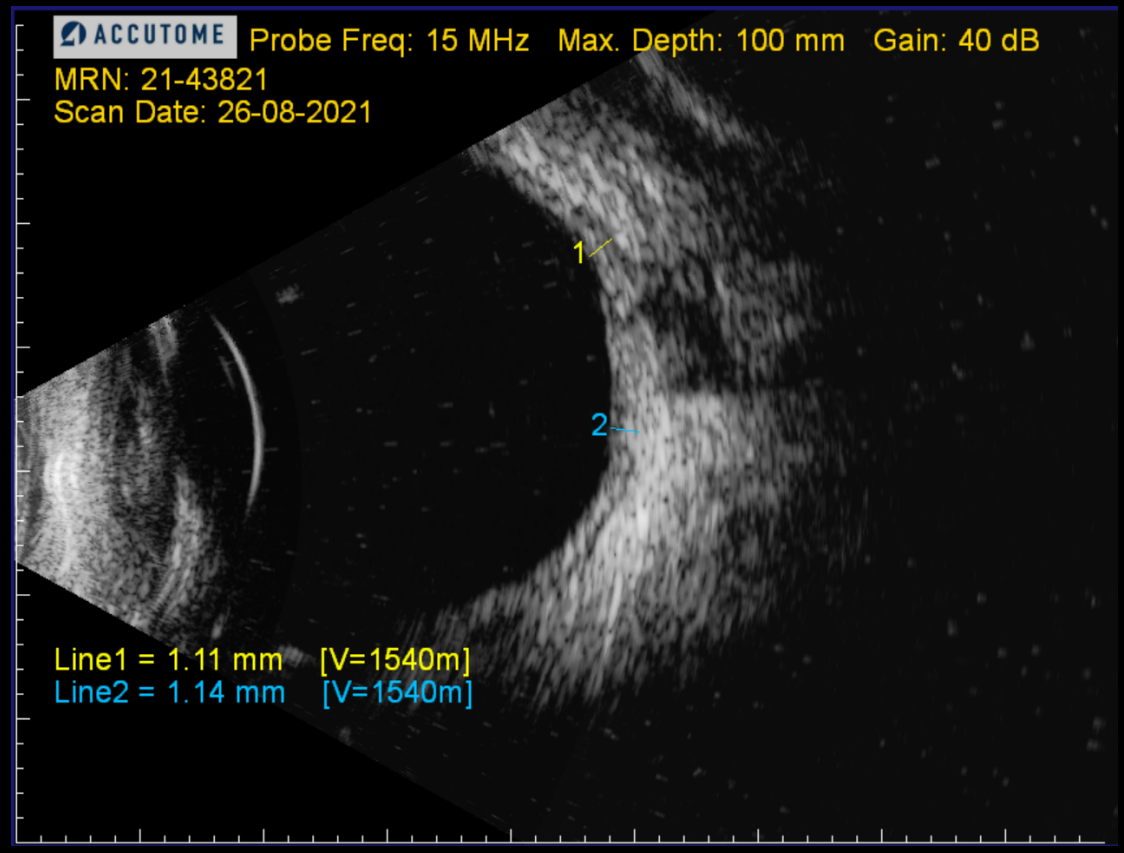

REDUCED RCS COMPLEX, MINIMAL SUBTENON'S FLUID, ABSENT T SIGN

FOLLOW UP

- PATIENT IMPROVED ON FURTHER FOLLOW UPS
- ORAL & TOPICAL STEROIDS WERE TAPERED WEEKLY

KEY LEARNING POINTS

- PROPER HISTORY TAKING & GOOD LITERATURE SEARCH CAN HELP RESOLVE MYSTERIES IN CASES OF RARE CLINICAL SCENARIOS

- EARLY AGGRESSIVE INTERVENTION MAY BE THE KEY TO SAVE SIGHT IN SUCH CASES

ZOLEDRONIC ACID

- MOST WIDELY USED BISPHOSPHONATE FOR METASTATIC BONE DISEASE & OSTEOPOROSIS
- INHIBITS OSTEOCLASTICACTIVITY THUS INCREASING BONE DENSITY AND REDUCING FRACTURES
- DOSE – 4 MG IV EVERY 3-4 WEEKS IN CASE OF MALIGNANCY
  -- 4 MG IV ONCE A YEAR IN CASE OF OSTEOPOROSIS

Umunakwe OC, Herren D, Kim SJ, Kohanim S. Diffuse ocular and orbital inflammation after zoledronate infusion-case report and review of the literature. Digit J Ophthalmol. 2017 Dec 28;23(4):18-21

PATHOPHYSIOLOGY OF ADVERSE EVENTS

- CYTOKINE MEDIATED INFLAMMATION

- IL-1
- IL -6
- TNF - ALPHA

Gupta S, Onkar A, Vashisht T. Zoledronic acid induced unilateral anterior uveitis. Indian J Ophthalmol. 2020 Sep;68(9): 2002-2003

FREQUENT SIDE EFFECTS

- FLU LIKE SYMPTOMS
- LOW GRADE FEVER
- FATIGUE
- MYALGIA
- ARTHALGIA

- TERMED ‘ACUTE PHASE REACTION’
- 40% PATIENTS HAVE ABOVE SYMPTOMS WITHIN 3 DAYS OF IV INFUSION

Khalid MF, Daigle P, DeAngelis D, et al Zoledronic acid-induced orbital inflammation BMJ Case Reports CP 2021

PATTERN OF INFLAMMATION

- 2/3RD CASES UNILATERAL
- MOST COMMON – CONJUNCTIVITIS & ANTERIOR UVEITIS
- AS PER OUR LITERATURE SEARCH, BILATERAL POSTERIOR SCLERITIS HAS NOT BEEN REPORTED WITH ZOLEDRONIC ACID INFUSION

Gupta S, Onkar A, Vashisht T. Zoledronic acid induced unilateral anterior uveitis. Indian J Ophthalmol. 2020 Sep;68(9): 2002-2003

IMMUNE TOLERANCE

- ZA INFUSION SHOWS A PATTERN OF IMMUNE TOLERANCE
- SUBSEQUENT IV INFUSIONS TEND TO HAVE LESSER AND LESSER ADVERSE EVENTS

Khalid MF, Daigle P, DeAngelis D, et al Zoledronic acid-induced orbital inflammation BMJ Case Reports CP 2021

IF YOU LIKE MORE INFORMATION

- Email: drvaibhavsethi@gmail.com

THANK YOU

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Clinical pattern and outcomes of patients with endogenous endophtalmitis : A Ten-Year Retrospective Review at a tertiary referral center

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Department of Ophthalmology, Fattouma Bourguiba University Hospital, Faculty of Medicine, University of Monastir, Tunisia

Introduction

Endogenous endophthalmitis is a rare but severe form of intraocular infection, originating from hematogenous dissemination of infectious agents from distant systemic site. . It presents 2 to 15% of endophthalmitis cases . This condition is often associated with underlying systemic diseases which can complicate the clinical management and outcomes [1].

Purpose

To describe clinical features, risk factors, microbiological profile, multimodal imaging findings, and outcomes in endogenous endophthalmitis (EE) through a case series of 21 patients.

Methods

A retrospective case series of patients presenting with presumed EE from 2011 to 2022. Demographics, predisposing risk factors, clinical findings, results of investigations, treatment modalities, and visual outcomes were collected.

Results

•In total, 21 cases (30 eyes) of EE were identified over the study period, with a mean age of 47.62 years (range:15-67), and 57.1 % were male.

•Bilateral involvement was noted in 9 patients (42.9%). Presenting visual acuity ranged from 20/20 to light perception. Main predisposing risk factors included diabetes (12 patients, 57%), urinary tract infection (5 patients;23 %), chronic immunodepression (4 patients, 19%), femoral catheterization (3 patients;14%), and malignancy (2 patients, 9%).

•Clinical findings included vitritis (20 eyes; 95%), anterior chamber inflammation (16 eyes;76%), vitreoretinal infiltrates (14 eyes;66%), hypopyon (7 eyes; 33%), retinal abscess (3 eyes;14%), scleritis (2 eyes, 9.5%), and panophtalmitis (1 patient;4.8%).

•EE was presumed to be fungal in 12 cases (57.1%) and bacterial in 9 cases (42.9%). Microbiological confirmation was recorded in 8 cases (38%). All patients received systemic and intravitreal antimicrobial drugs. Vitrectomy was performed in 3 cases. Final visual acuity ranged from no light perception to 20/25.

Références

[1] Sadiq, M.A., Hassan, M., Agarwal, A. *et al.* Endogenous endophthalmitis: diagnosis, management, and prognosis. *J Ophthal Inflamm Infect* **5**, 32 (2015).

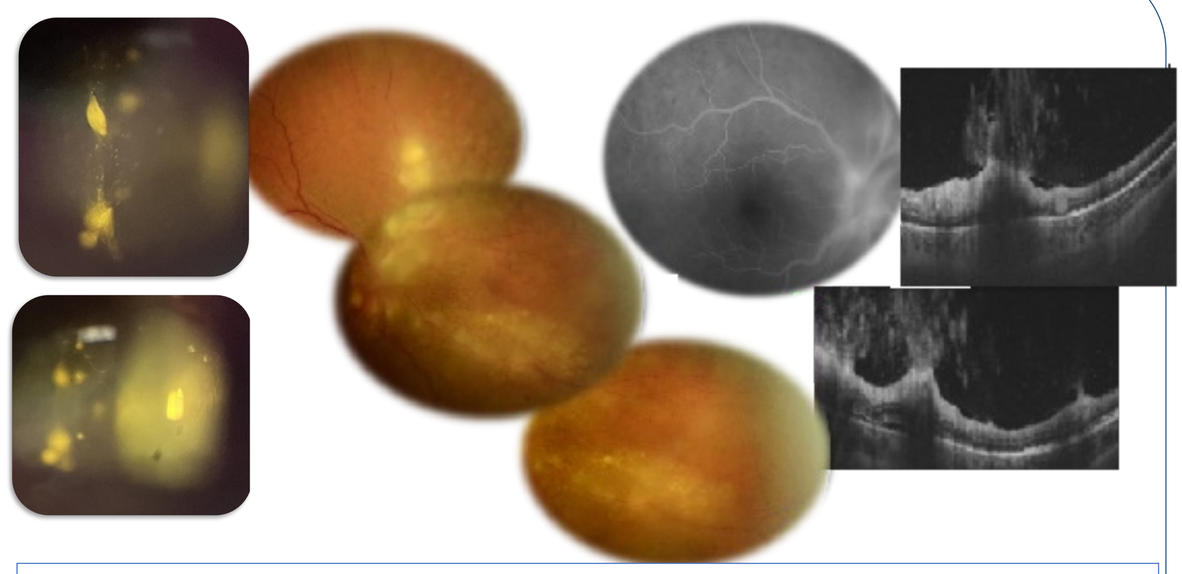


Figure 1 : Fungal endogenous endophthalmitis

A case of 29 year old patient with history of urinary tract infection ,presented with unilateral panuveitis (A) Fundus photography and fluorescein angiography showed chorioretinal infiltration pattern (B) OCT section through superior lesion (arrow) showed posterior hyaloid thickening with hyper - reflective inner retinal lesion (rain cloud sign « asterisks») (C) .

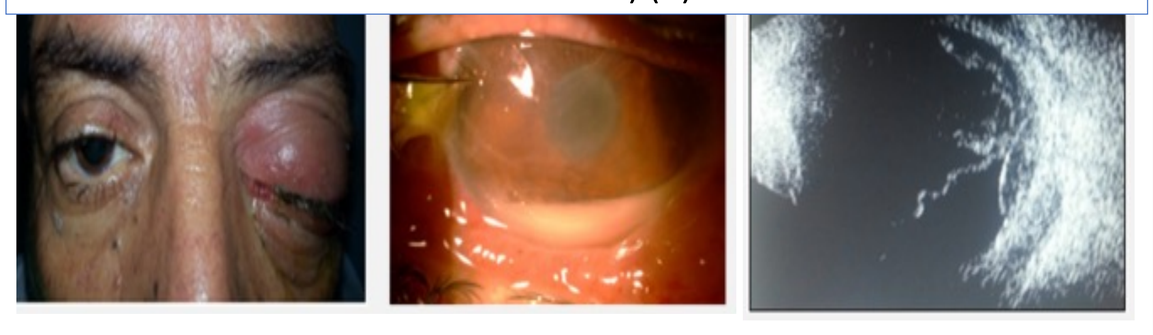


Figure 2 : Bacterial panophtalmitis in a 54-years-old man with medical history of diabetes and recent purulent pleurisy.

Anterior segment photographs shows proptosis, chemosis, hypopion and severe anterior segment inflammation (A) . B-scan ultrasongraphy shows sclerochoroiadal thickening and localized retinal detachment

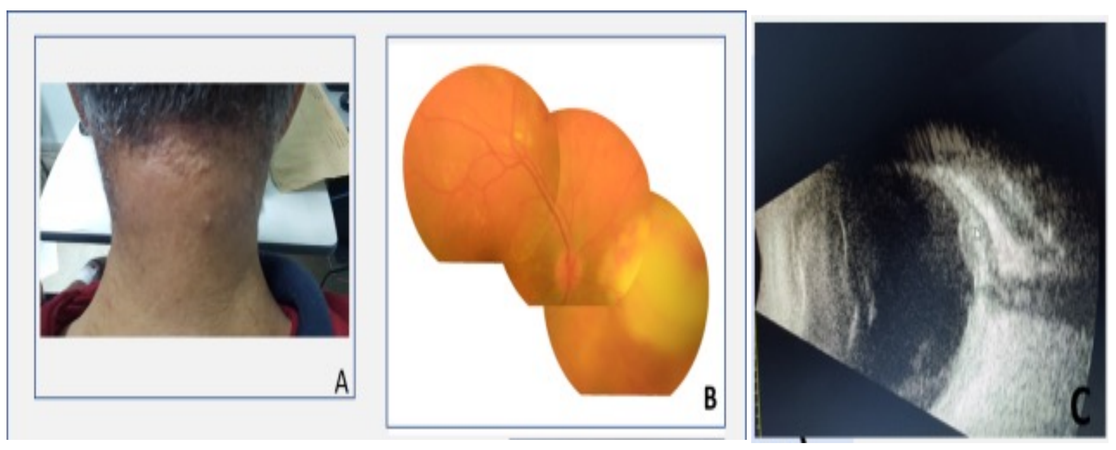


Figure 3 : Bacterial endogenous endophthalmitis in a 52-years-old man with medical history of diabetes and staphylococcus **neck abcess (A). Fundus photographs of the RE shows large necrotic retinal lesion nasal to** the optic disc with surrounding retinal hemorrhages (B) . B-scan ultrasongraphy shows hyperechogene retinal lesion (arrow)(C).

Conclusion

Our ten-year review demonstrates that endogenous endophthalmitis frequently presents with severe inflammation, predominantly due to fungal infections. Despite aggressive antimicrobial and surgical treatments, visual outcomes remain variable, emphasizing the critical need for early diagnosis and tailored therapeutic strategies to improve prognosis.

Choroideremia & CNVM

Choroideremia is a rare hereditary choroidal dystrophy that predominantly affects males in the first and second decades of life.

CNVM is a rare manifestation of choroideremia with only a handful of case reports presented in the literature.

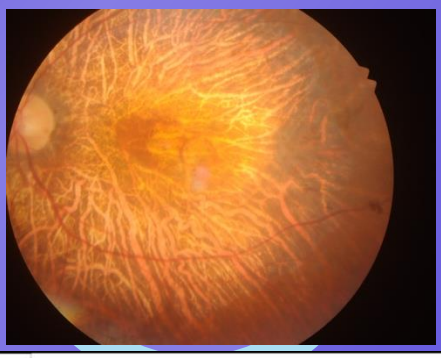
Choroideremia-related CNVM may present with a small subretinal hemorrhage and a subretinal neovascular membrane, as seen in our patient.

Presentation with significant exudation in the form of clinical and tomographic evidence of subretinal and intraretinal fluid is rare.

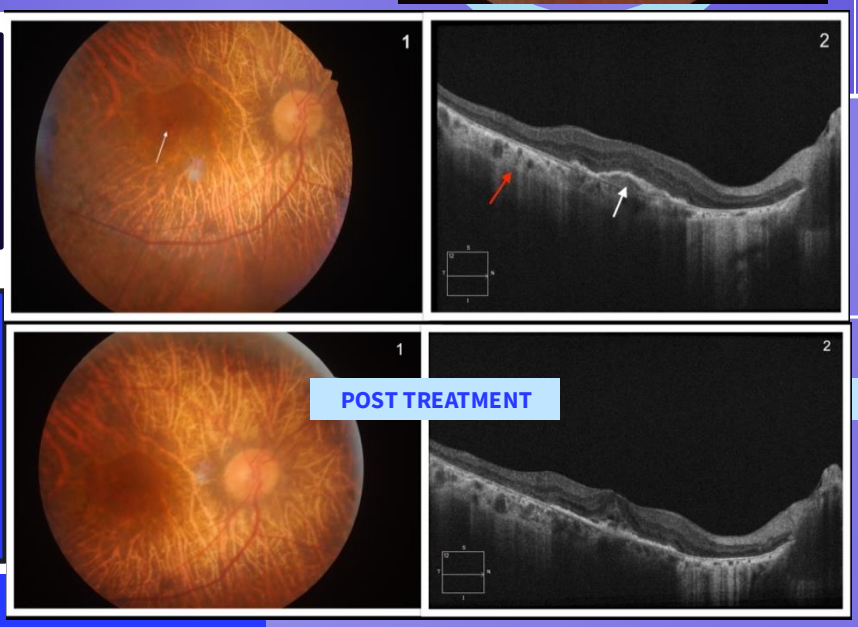
Rare Case of CNVM secondary to ARMD in a patient of Choroideremia

Borse Nishikant

Insight Eye Clinic , Mumbai



88 yr / Male
Known case of Choroideremia
Presented with sudden diminution of vision
BCVA- 20/120



Treated With Ranibizumab X 3 monthly injections

Patient did well with VA improving to 20/40

Vision is maintained for the last 18 months

Conclusion

CNVM as a consequence of choroideremia is a very rare finding, particularly in the presence of another diagnosis such as AMD , with only a handful reported cases.

With early intervention and use of VEGF inhibition, the CNVM can be managed well with improvement and maintaining the visual acuity.

This is possibly the oldest reported patient having CNVM in an eye with Choroideremia.

References:

- Ali Nouraeinejad, Ph.D :Choroideremia – A clinical insight and differential diagnosis . http://doi.org/10.31288/oftalmolzh202235053
- Chen RC, Traboulsi EI, Rachitskaya A. Chronic Choroidal Neovascular Membrane in Choroideremia Treated With Intravitreal Bevacizumab. Ophthalmic Surg Lasers Imaging Retina. 2019 Jun 1;50(6):e188-e192.doi:10.3928/23258160-20190605-15. PMID: 31233164.
- Rachel C. Chen, MD , Elias I. Traboulsi, MD, MEd et al Chronic Choroidal Neovascular Membrane in Choroideremia Treated With Intravitreal Bevacizumab Ophthalmic Surgery, Lasers and Imaging Retina, 2019;50(6):e188–e192
- Neal V Palejwala, Andreas K Lauer and Richard G Weleb , Choroideremia associated with choroidal neovascularization treated with intravitreal bevacizumab , Clinical Ophthalmology Volume 8 Dec 2014
- Endo, K., Yuzawa, M. and Ohba, N. (2000), Choroideremia associated with subretinal neovascular membrane. Acta Ophthalmologica Scandinavica, 78: 483-486. https://doi.org/10.1034/j.1600-0420.2000.078004483.x

TO BUCKLE OR NOT TO BUCKLE

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21st Meeting
European VitreoRetinal Society EVRS

INTRODUCTION

- Management of pediatric rhegmatogenous retinal detachment (RRD) is challenging.
- Herein we describe three challenging cases of RRD in children successfully managed with scleral buckle.

METHODS

- A report of 3 cases.
- Preoperative findings, management, and outcomes are described. Scleral buckle was performed using a slit-lamp annexed to the operating microscope and a contact lens.

CASE 1

- A 9-year-old female patient was referred for uveitis associated-retinal detachment. BCVA was LP in the RE and 20/20 in the LE. Slit lamp examination showed posterior synechia and subcapsular posterior cataract. Fundus examination was blurred due to poor dilation **(figure 1 a,b)**. B-scan ultrasonography showed total RRD **(figure 1c)**. The examination of the LE was unremarkable. A minimal workup for pediatric uveitis was negative. The diagnosis of chronic RRD masquerading as uveitis was made.
- Under general anesthesia, posterior synechia were released using viscoelastic. Fundus examination under scleral depression using slit lamp annexed to the operating microscope and quadraspheric lens revealed an inferior retinal tear. A circumferential buckle using a 3x5 mm silicone sponge (type 506) was performed in the same operating time **(figure 1d)**.
- Post-operatively, BCVA improved to 2/10 and the retina was attached **(figure 1 e,f,g)**.

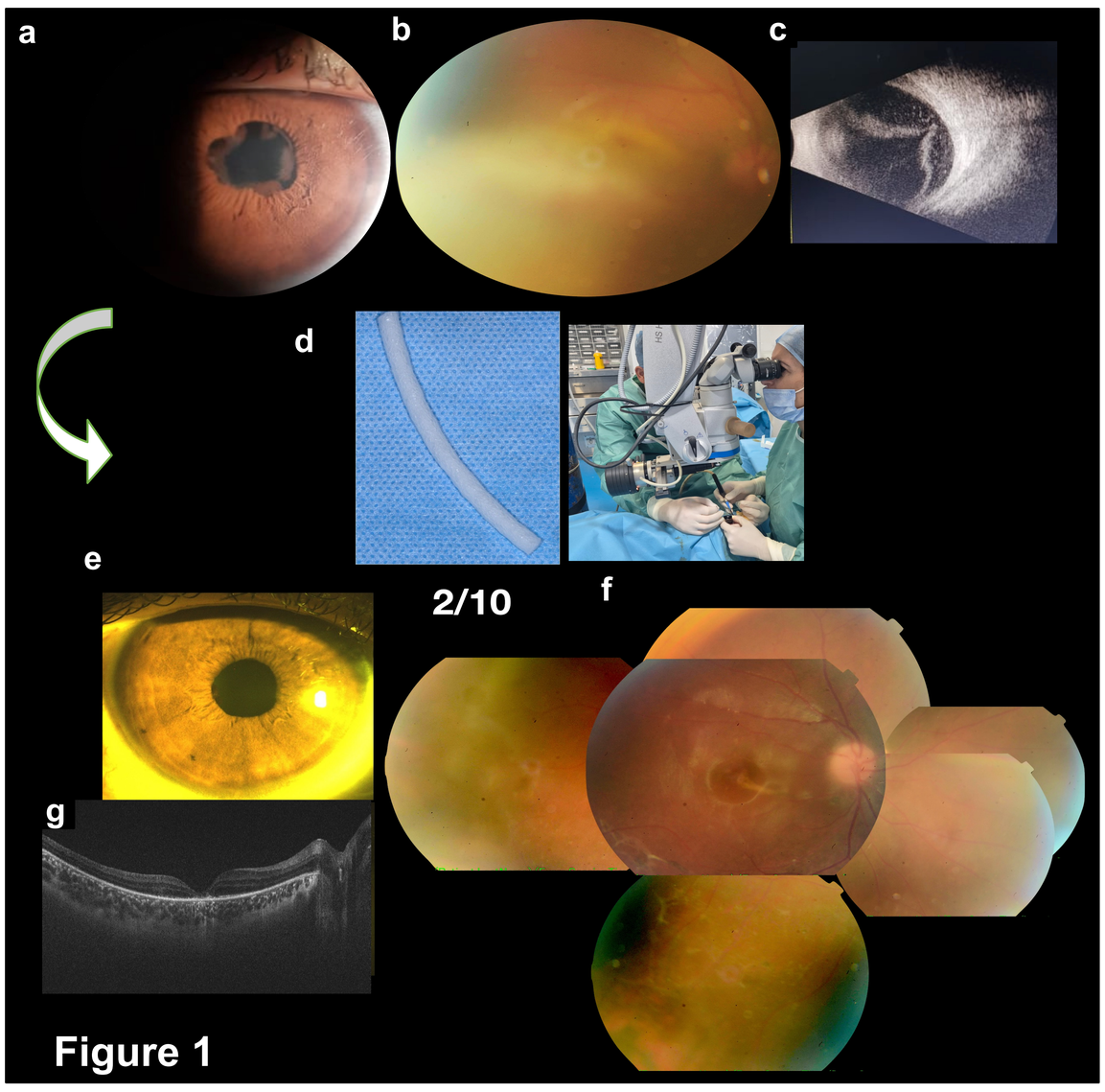

Figure 1

CASE 2

- A highly myopic 11-year-old girl was referred for exsudative retinal detachment. BCVA was LP in the RE and 20/32 (-8) in the LE. Fundus examination showed bullous inferior retinal detachment with no obvious retinal tear **(figure 2a)**.
- There also were retinal hemorrhages and vascular sheathing **(figure 2a, arrows)**. The diagnosis of RRD was made based on the clinical findings of vitreous tobacco dust, a history of high myopia and RRD surgery in the family.
- Under general anesthesia, fundus examination with scleral depression revealed an inferior retinal tear **(figure 2b)**. A 180° circumferential inferior buckle using a 3x5 mm silicone sponge (type 506) was performed **(figure 2c)**. Post-operatively, BCVA improved to 1/10 and the retina was attached **(figure 2d)**.

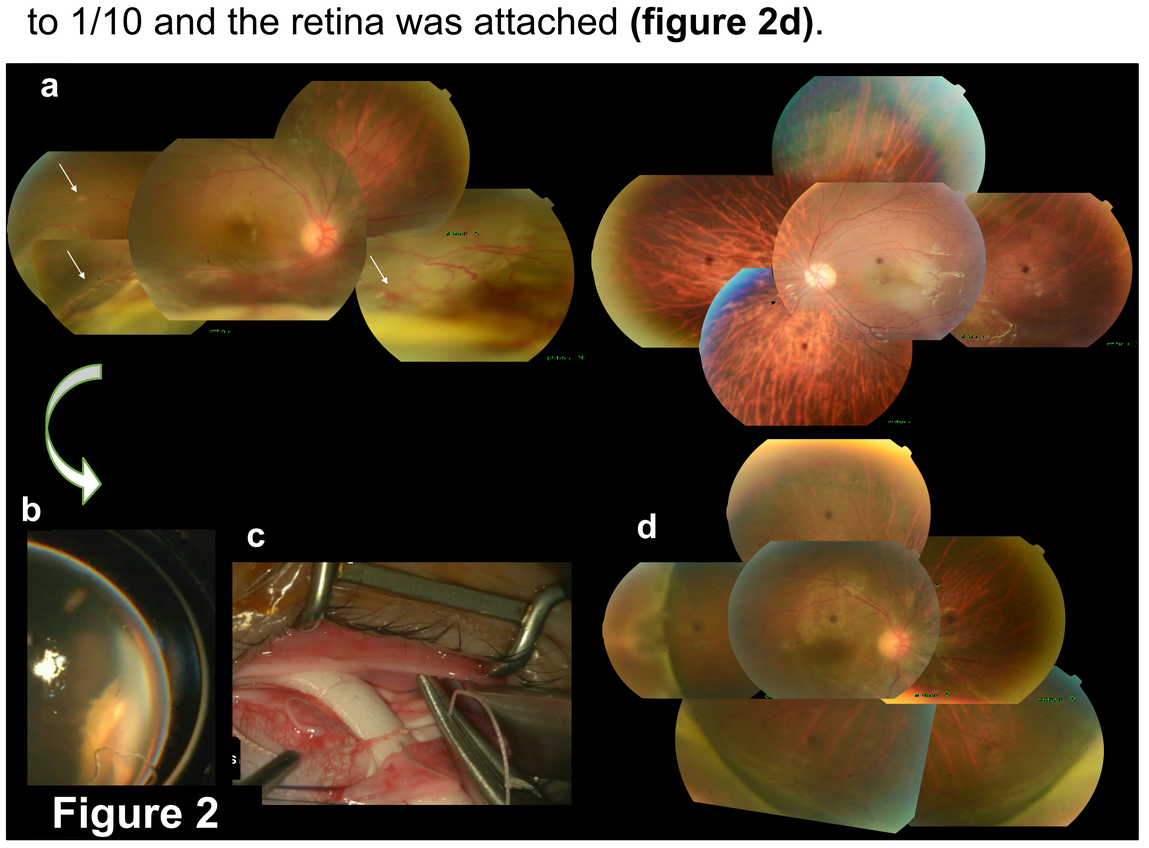

Figure 2

CASE 3

- A highly myopic 13-year-old girl was referred for RRD of the RE. She has a history of bilateral pseudophakia and RD surgery in the LE 1 year ago (combined cataract and vitrectomy with silicone oil tamponade). BCVA was LP in both eyes **(figure 3a)**. Fundus examination showed total RRD with multiple breaks in the RE (at 6, 9, and 10 o'clock) and was obscured by secondary IOL opacification in the LE **(figure 3 a,b)**.
- Under general anesthesia, a 270° circumferential buckle using a 3x5 mm silicone sponge (type 506) was performed. Post-operatively, BCVA improved to 1/10 and the retina was attached **(figure 3c)**.

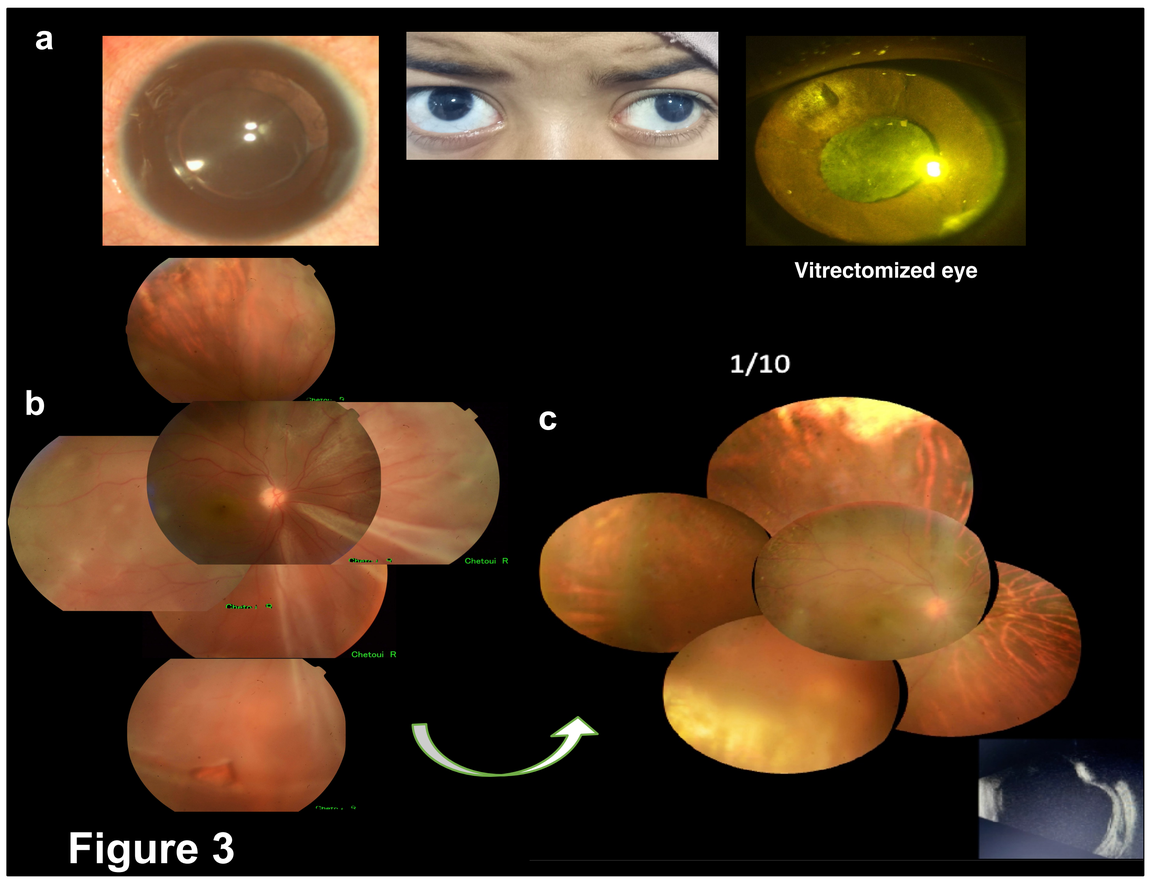

Figure 3

CONCLUSION

- Pediatric RRD is a diagnostic and therapeutic challenge.
- Scleral buckle is the treatment of choice in these cases.

A MYSTERIOUS CASE OF UNILATERAL DISC EDEMA

GUPTA, NIKITA
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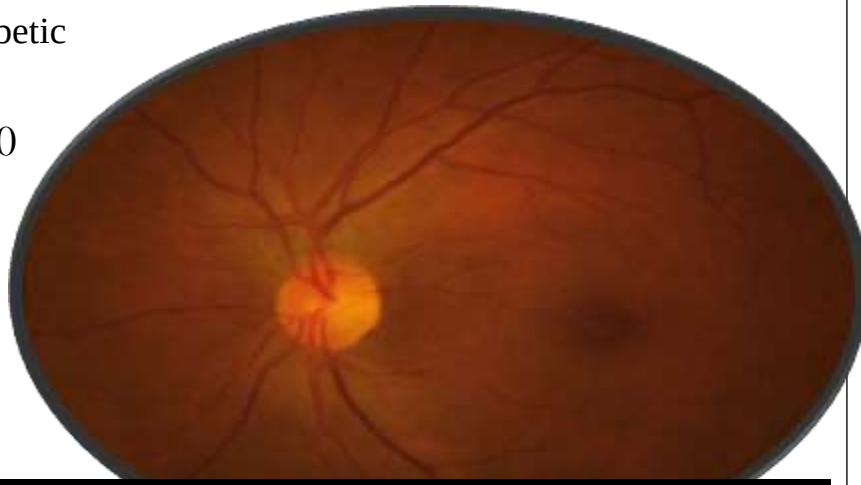
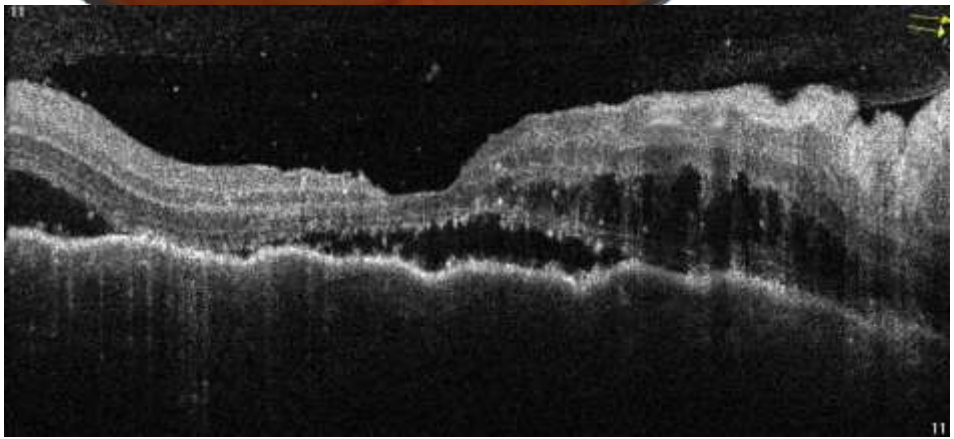
M.Ch. Vitreoretina (PGI, Chandigarh)
MD (AIIMS,India)

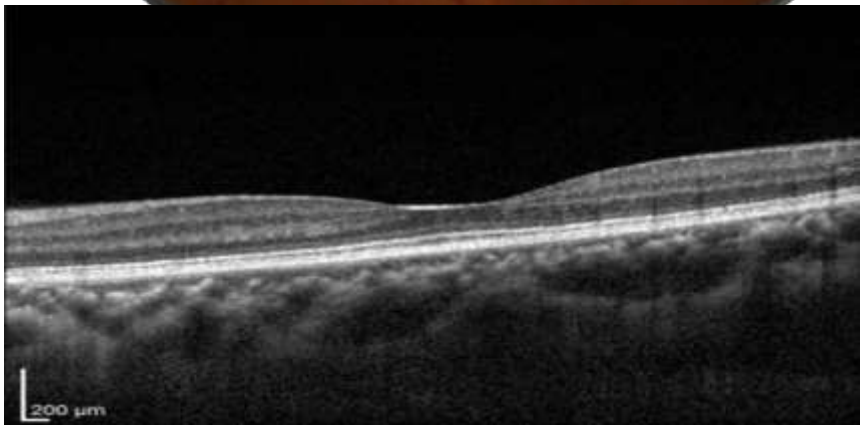
- 40-yr-female patient
- DOV in RE for 6 months
- Associated with mild pain in RE and headache
- Known diabetic

VA RE- 6/60

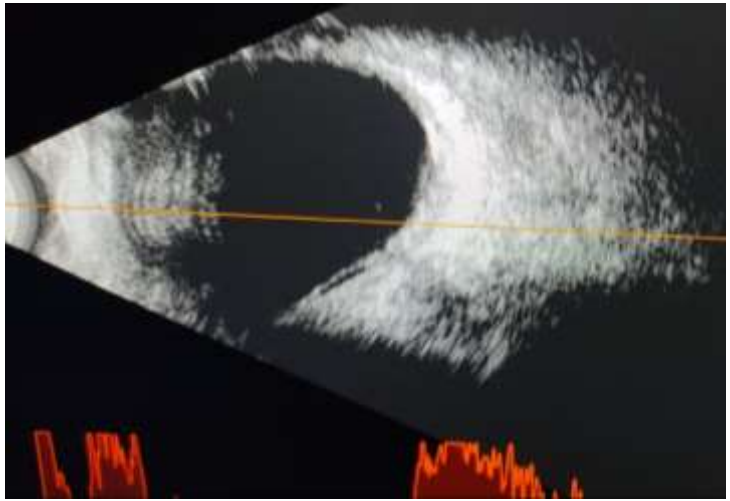
VA LE- 6/6







RE USG B Scan

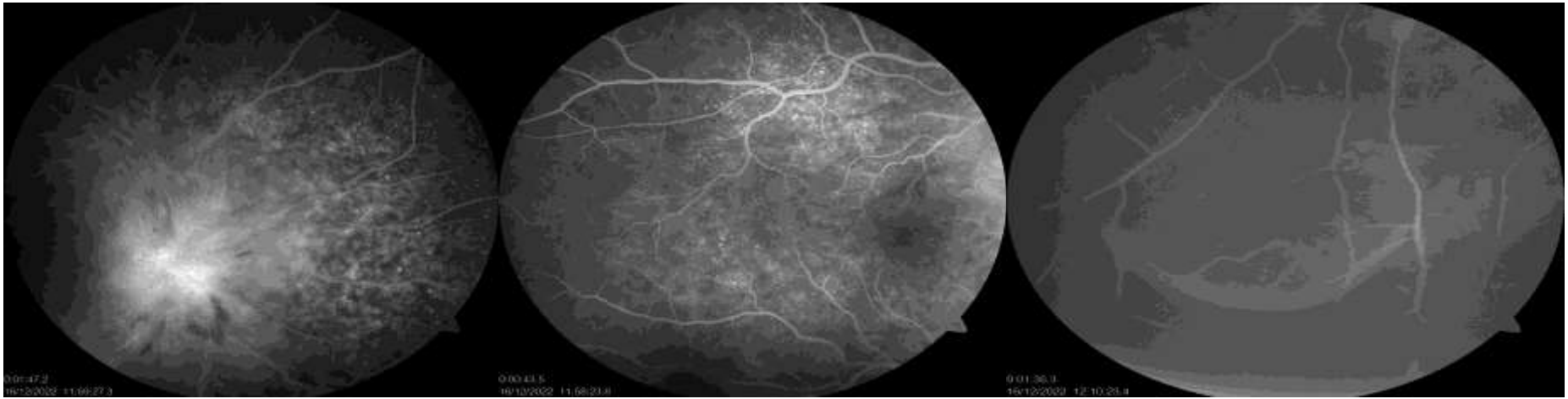


- Empirically started on
- Tab. Doxycycline 100mg BD

- Plan to start oral steroids after ruling out infective etiology
- Patient poor and not affording for most investigations including ICGA

Investigations:	Result:
CBC, LFT, KFT	WNL
Lyme serology	Negative
ANA	Speckled
ACE	Normal(34.6U/L)
RPR, TPHA, HIV	Non reactive
RA factor	Negative
Mantoux	10mm*10mm
Quantiferon TB Gold	Negative
CE- MRI brain, orbit and spine	A well defined smooth marginated solid homogenously enhancing mass along olfactory groove s/o extra axial dural based mass -likely meningioma

FFA RE



FFA LE

- **Investigations:** B scan normal. No CR thickening.
- Lab investigations - WNL
- **Diagnosis**: Atypical Vogt-Koyonagi Harada syndrome

- **Treatment**:

Tab. Wysolone 45mg OD ABF (Wt -45kg) (Refused iv MP)

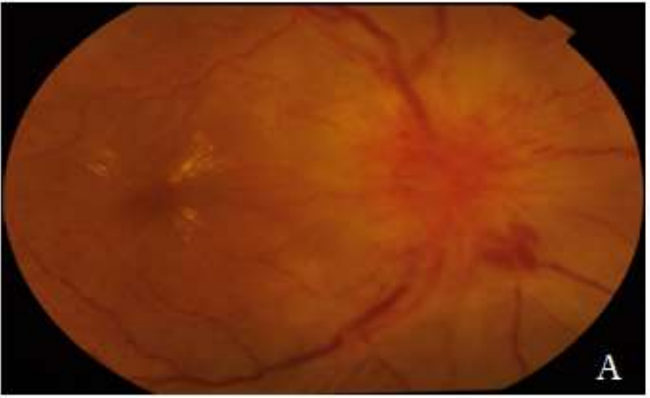
Tab. Pantop 40mg OD BBF

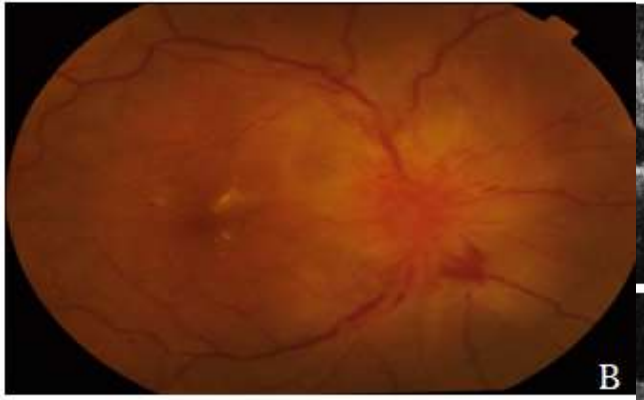
Tab. Shelcal 500mg BD

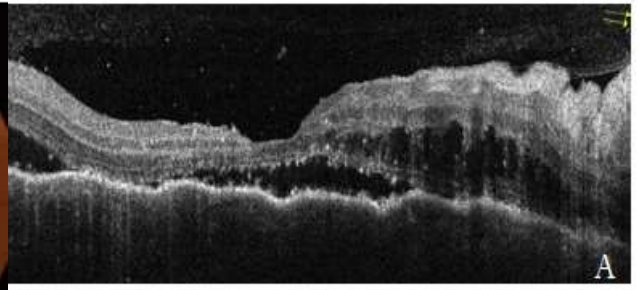
Tab. Azoran 50mg OD

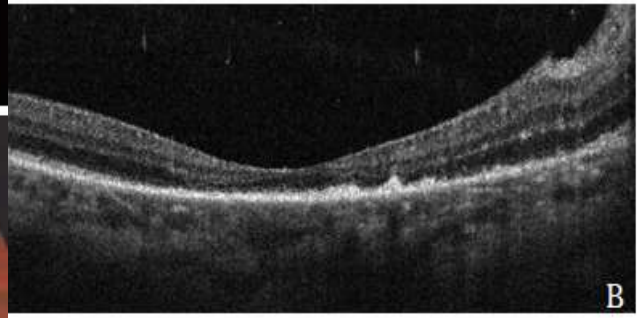
AT PRESENTATION – 6/60

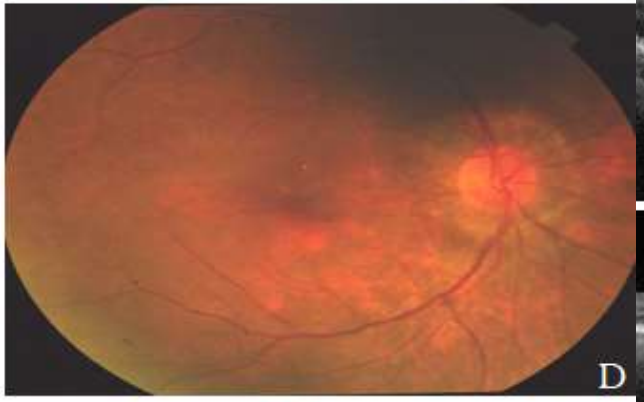
DAY3 – 6/24

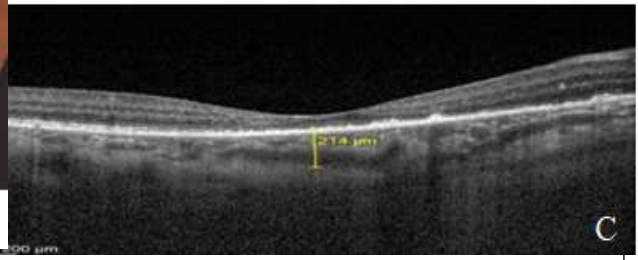






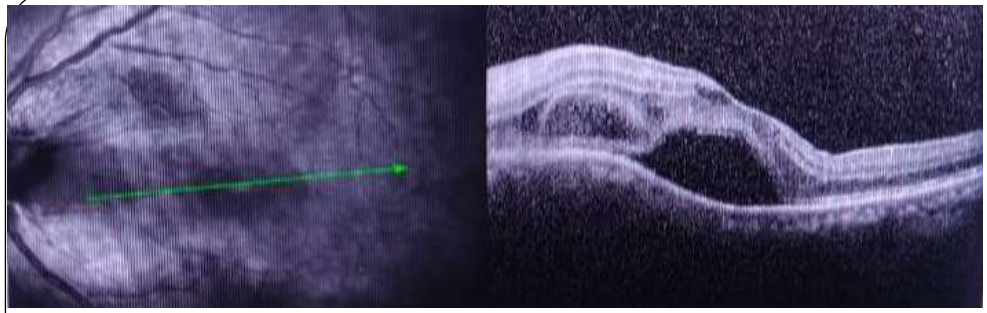




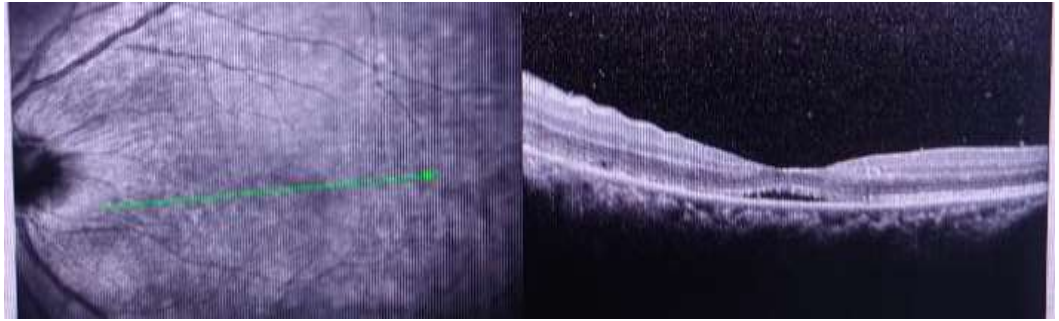


DAY 5– 6/18P

DAY10 – 6/12

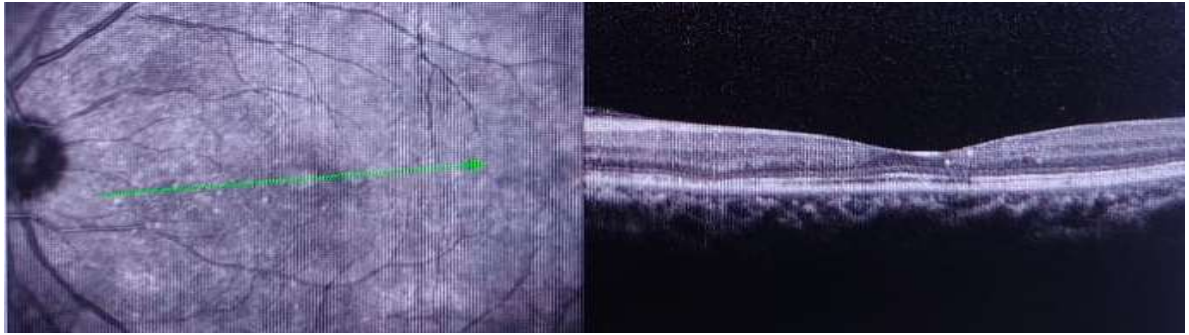


5 MONTHS LATER:
Similar presentation in left eye
ON TAB. AZORAN 50MG (SELF TAPERED)
VN LE- 6/36
IOP- 16mmHg



STARTED AGAIN ON WYSOLONE 50 MG OD ABF
TAB. AZORAN 100 MG OD

AFTER 1 MONTH:
VN LE- 6/6
IOP- 18mmHg



TO SUMMARISE:

- Atypical presentation of VKH can present as Neuroretinitis
- All systemic investigations were non contributing to the etiology
- Significant improvement with oral steroids
- VKH should be considered in the differentials for chronic or recurrent idiopathic neuroretinitis cases and ICGA / FFA should be performed.

Predicting the outcome of anti-VEGF therapy by analyzing VEGF concentrations in serial aqueous humor in patients with neovascular glaucoma arising from proliferative diabetic retinopathy

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2Department of Ophthalmology, Kyung Hee University Hospital at Gangdong
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Introduction

Diabetic retinopathy leads to vision-threatening neovascular glaucoma (NVG) due to vascular endothelial growth factor (VEGF) induced angiogenesis. Anti-VEGF, like intravitreal bevacizumab injections (IVB), stabilizes neovascularization and controls intraocular pressure (IOP). However, optimal dosing remains unclear.

In this study, we aimed to analyze serial aqueous humor concentrations of VEGF in three injections given at 2-week intervals to predict the prognosis of IVB treatment in patients with NVG by measuring VEGF concentrations in the aqueous humor.

Methods

In this prospective study(2016~2022), patients with NVG secondary to proliferative diabetic retinopathy received three IVB two weeks apart.

All patients receive pan-ratinal photocoagulation (PRP) to inhibit neovascularization

Exclude patients with a closure angle caused by peripheral anterior synechiae (PAS)

Anterior chamber aqueous humor was collected after each injection to measure VEGF levels(ELISA analysis).

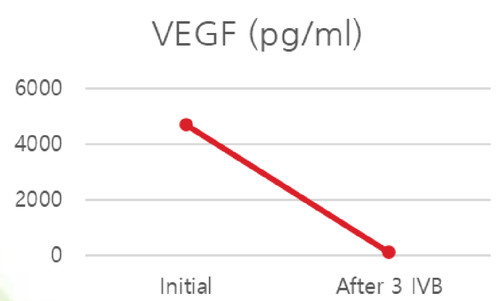
Those with IOP ≤ 20 mmHg post-treatment were monitored, with subsequent anti-VEGF injections if needed.

Patients were divided into two groups based on the number of anti-VEGF injections(5 or fewer vs. 6 or more injections) received for comparison of visual acuity, IOP, and VEGF concentrations.

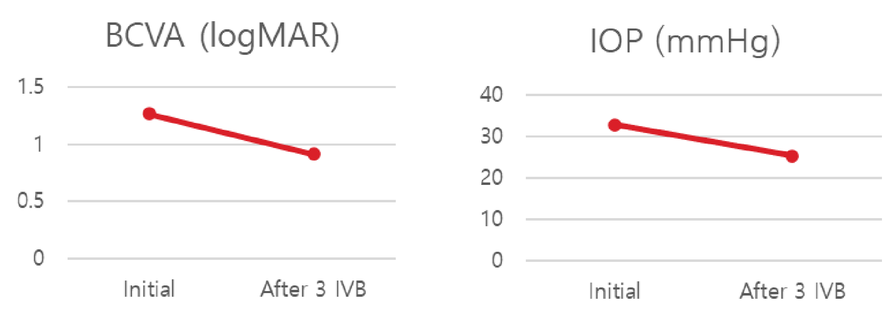
Result

In this study of 17 eyes from 14 patients with NVG,

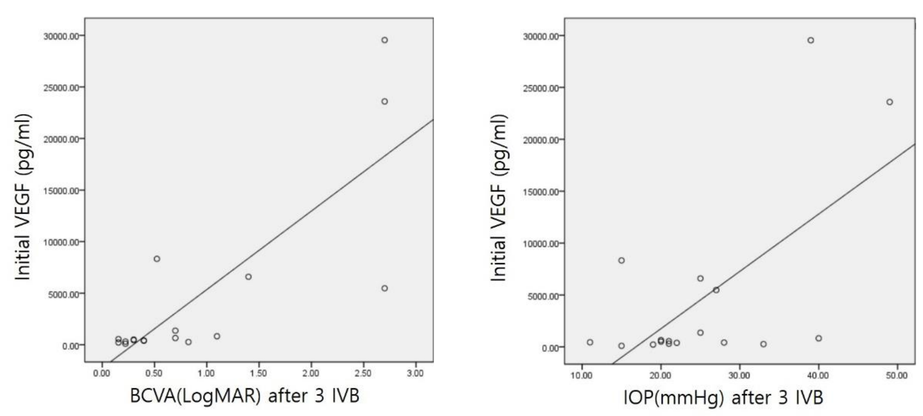
IVB significantly reduced anterior chamber VEGF levels (initially 4681.46±8673.42 pg/ml to 104.55±102.78 pg/ml after 3 injections, p<0.001).



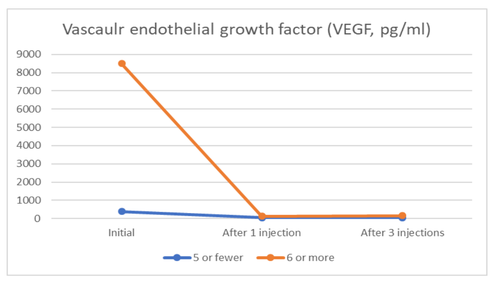
BCVA improved (1.27±1.10 to 0.91±0.92, p<0.001) ,IOP decreased (32.71±17.33 mm Hg to 25.41±9.94 mm Hg, p=0.032) post-treatment.

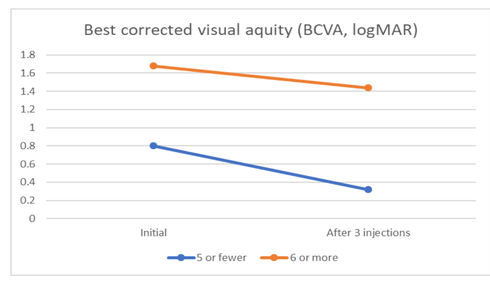


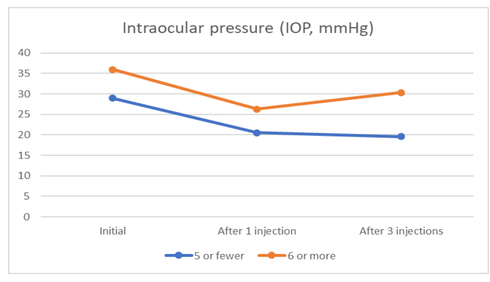
Initial VEGF levels correlated with BCVA (p<0.001, r=0.806), IOP (p=0.006, r=0.632) after 3 injections.



Patients receiving 6 or more injections had higher initial VEGF levels and worse outcomes.







Conclusions

Anti-VEGF reduced anterior chamber VEGF in NVG, improving BCVA and IOP.

Some required repeat injections due to inadequate IOP control or persistent neovascularization.

Initial VEGF levels correlated with post-treatment outcomes, suggesting its predictive value.

Patients needing more injections had higher initial VEGF and poorer outcomes, indicating its potential as a prognostic marker for anti-VEGF efficacy in NVG.

We believe that measuring VEGF concentration in the anterior chamber may help predict the effectiveness of anti-VEGF treatment in NVG patients.

Vitrectomy for Macular Hole-Induced Retinal Detachment in High Myopia

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Introduction. Vitrectomy (VE) combined with internal limiting membrane (ILM) pilling is the main method of treatment for retinal detachment caused by macular hole (MH) in eyes with high myopia. Due to frequent non-congruence of the retina and chorioidal-scleral complex caused by long anteroposterior axis (APA) length and posterior staphyloma, as well as marked retinal and choroidal atrophy in the macular region, the results of surgical treatment with this technique do not always leads to anatomical and functional success. Retinal detachment recurs in some patients, primary closure of the MO does not always occur, which significantly worsens the restoration of visual acuity. However, the combination of classical VE surgery with additional techniques has significantly improved the results of treatment of this pathology.

Purpose. To evaluate the anatomical and functional outcome of mini invasive vitrectomy using platelet-rich autoplasma (aPRP) for macular hole-induced retinal detachment in patients with high myopia.

Materials and methods. The results of surgical treatment of 10 eyes of 10 patients (1 man, 9 women) aged 63.4±7.8 years, who were treated in the microsurgery departments of the E.V. Klumov 3rd City Clinical Hospital in Minsk from September 2018 to December 2023 were analyzed. The average APA length was 29.03±2.07 mm. Myopic refraction ranged from –8.0 to –18.0 diopters. Myopic maculopathy was diagnosed in all patients. The duration of the disease varied from 2 weeks to 3 months. Patients underwent a three-port pars plana 25G vitrectomy with ILM pilling, platelet-riched autoplasma (aPRP) and tamponade of the vitreous cavity with silicone oil.

Results. As a result of the treatment, adherence of the retinal detachment was achieved in 100% of cases and closure of the macular hole in 90% of eyes. Best corrected visual acuity (BCVA) was 0.02±0.01 (0.01–0.04) preoperatively, 0.09±0.06 (0.02–0.2) after 1 month and 0.1±0.06 (0.03–0.2) after 6 months. Silicone oil was removed in 2-6 months. The increase in visual acuity after surgery was limited by myopic maculopathy.

Number of case	10
Age (years; mean±SD)	63.4 ± 7.8
Gender (female/male)	9/1
Axial length (mm; mean ± SD)	29.3 ± 2.0
Preoperative BCVA (mean±SD)	0.02 ± 0.01
Postoperative BCVA (mean ± SD) 1 month	0.09 ± 0.06
Postoperative BCVA (mean±SD) 6 month	0.1 ± 0,06
MH closure, n (%)	9 (90%)
Retinal reattachment rate (%)	100 %

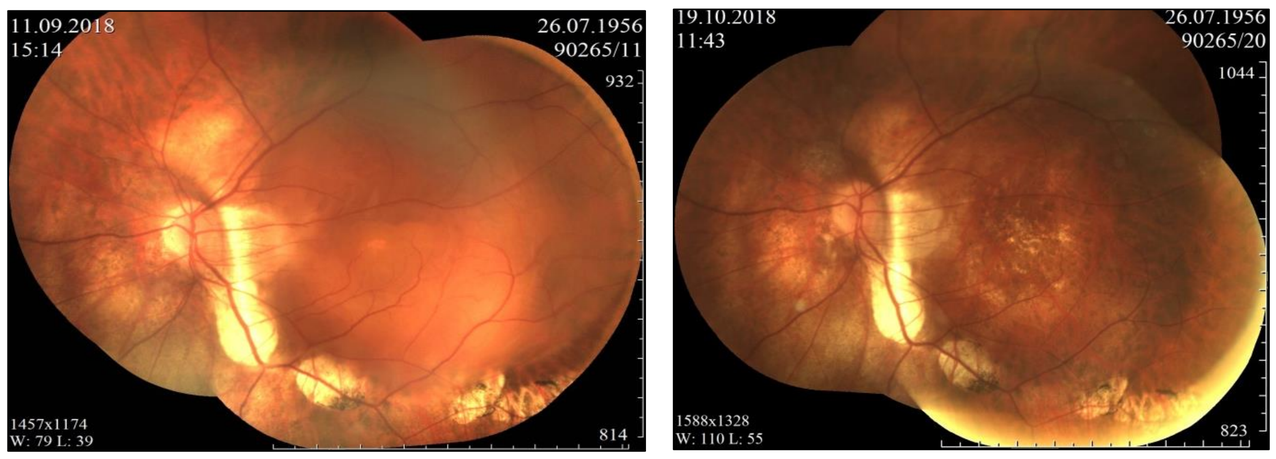

Fig. 1. Photo of the ocular fundus of patient K. with retinal detachment caused by macular hole in an eye with high myopia: A – preoperative retinal detachment limited by vascular arcades is visualized; B – 1 month after surgery, reattachment of the retina, atrophic myopic maculopathy is manifested

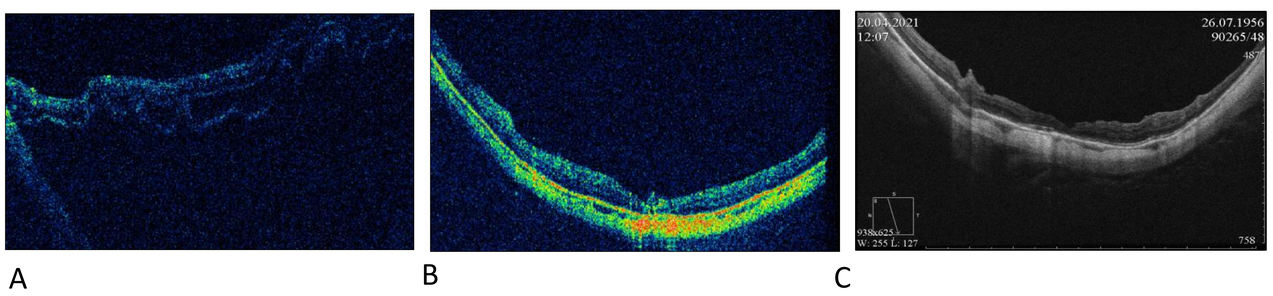

Fig. 2. Optical coherence tomography of the ocular fundus of patient K. with retinal detachment caused by macular hole in an eye with high myopia: A – preoperatively, MH was not visualised due to extremely long APA and lack of gaze fixation in the patient. The presence of MH was confirmed intraoperatively; B – 1 month after surgery, the macular hole is closed and reattachment of the retina; C - 3 year after surgery, the macular hole is closed, reattachment of the retina

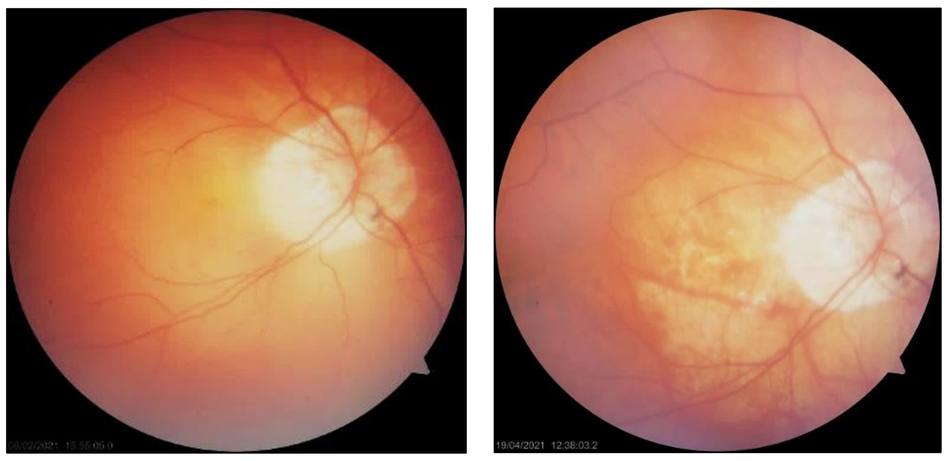

Fig. 3. Photo of the ocular fundus of patient N. with retinal detachment caused by macular hole in an eye with high myopia: A - preoperative retinal detachment limited by vascular is visualized; B - 1 month after surgery, reattachment of the retina, myopic maculopathy is manifested

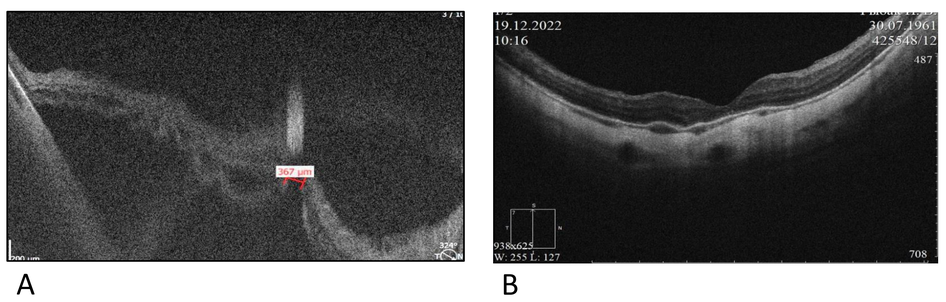

Fig. 4. Optical coherence tomography of the ocular fundus of patient N. with retinal detachment caused by macular hole in an eye with high myopia: A – preoperative maximum linear diameter of the MO was 367 µm, retinal detachment is visualized in the macular area; B – 3 months after surgery, the MH is closed, reattachment of the retina

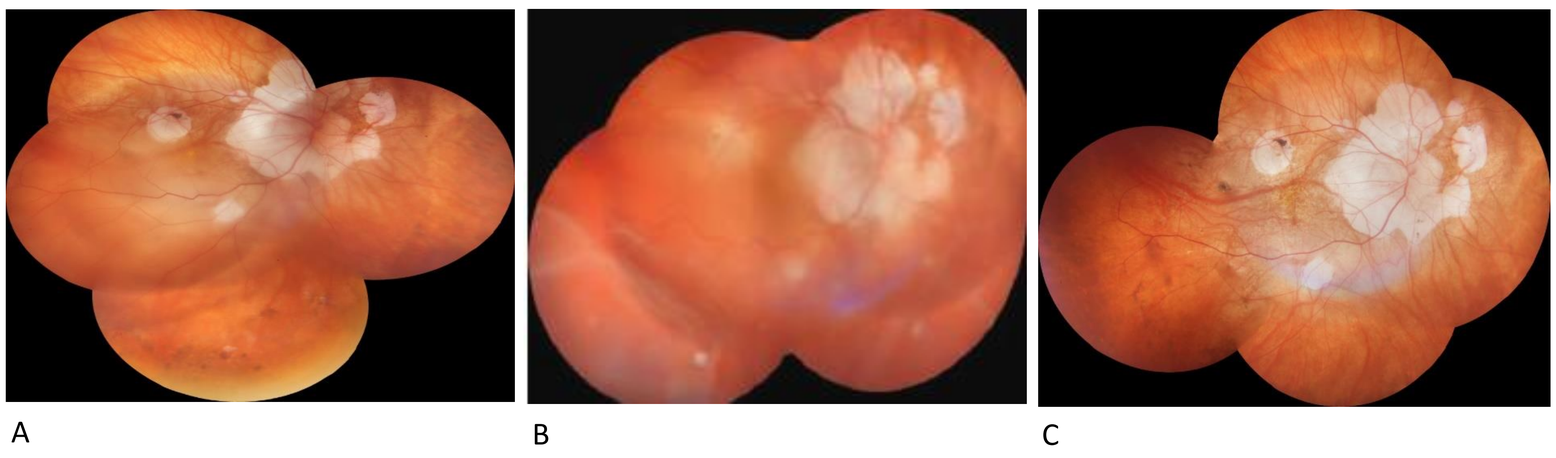

Fig. 5. Photo of the ocular fundus of patient P. with retinal detachment caused by macular hole in an eye with high myopia: A – at initial examination retinal detachment limited to vascular arcades was seen; B – 1 month later retinal detachment spread beyond vascular arcades, the patient was operated on; C – 1 month after surgery retina is flattened, myopic maculopathy is seen

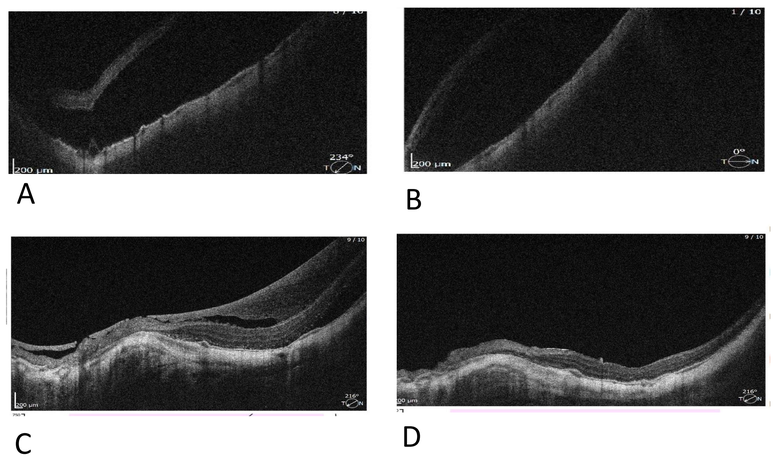

Fig. 6. Optical coherence tomography of the ocular fundus of patient P. with retinal detachment caused by macular hole in an eye with high myopia: A,B – no visualization of MH before surgery, diagnosed intraoperatively; C – 3 days after surgery, platelet-rich filling plasma is visible in the area of MH; D – 1 month after surgery, MH is closed, autologous platelet-rich plasma (aPRP) has resolved

Conclusion. The combined technique of treatment of retinal detachment caused by macular hole in high myopia by vitrectomy with ILM peeling, platelet-rich autoplasm and silicone oil tamponade is highly effective and allows to achieve MH closure in 90% of cases and complete anatomical adhesion of the retina.

1. Kim D.Y., Jo Y.J., Kim J.-Y. Surgical outcomes of vitrectomy for macular hole-induced retinal detachment according to various surgical methods: a multicenter retrospective study. Semin Ophthalmol. 2021;36(8):728–733. doi: 10.1080/08820538.2021.1900288
2. Sasaki H., Shiono A., Kogo J. Inverted internal limiting membrane flap technique as a useful procedure for macular hole-associated retinal detachment in highly myopic eyes. Eye. 2017;31(4):545–550. doi: 10.1038/eye.2016.263
3. Shkvorchenko D., Zaharov V., Shpak A. Our experience with the use of platelet-rich plasma in macular hole surgery. Sovremennye tekhnologii v oftal'mologii. 2016;1(9):245–246. (in Russian)
4. Arsyutov D. Use of autologous conditioned platelet-rich plasma in surgery for rhegmatogenous retinal detachment with central and peripheral tears. Acta Biomedica Scientifi ca. 2019;4(4):61–65. doi: 10.29413/ABS.2019-4.4.8 (in Russian)

DESCRIPTIVE STUDY OF INHERITED RETINA DYSTROPHIES IN TERTIARY EYE CENTER IN CENTRAL INDIA

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INTRODUCTION

Inherited retinal diseases (IRD) are a group syndromic and non-syndromic retinal disorders caused by mutations in genes encoding for proteins essential for functioning and maintenance of photoreceptors, retinal pigment epithelium and other retinal neurons. This results in various overlapping phenotypic retinal dystrophies or optic neuropathies. The prevalence rates vary between 1/750 and 1/5000.

Wide variety of inheritance spectrum pattern like AD, AR, XL or mitochondrial are noticed which affects the disease onset & duration.

New innovative and non-invasive tools for genetic testing like Single-gene DNA sequencing (using the Sanger technique), sequencing of panels of genes (by next-generation sequencing (NGS) of the whole exome (by whole exome sequencing (WES) to investigating the entire genome (by whole genome sequencing (WGS) are used these days.

MATERIAL AND METHODS

Being conducted in this part of central India, it helped us to precisely identify the relative frequencies of various IRDS whose data lacked previously and gave opportunity to the patient's family members for pre-symptomatic diagnosis in youngerpatients.

The Detailed Clinical And Family History Including History Of Consanguinity, Type Of Inheritance , Sex, Ages .At Symptom Onset, Diagnosis, Associated Systemic Feature Any Prior Ophthalmological Visit , Inheritance Pattern , Pedigree Data And Mutated Gene If Available Of All 31 Cases Was Studied. Relevant examination was noted. Data Was Then Classified Into Various Inherited Retinal Dystrophies. Spectral Domain Optical Coherence Tomography (SD-OCT) And Electrophysiology (ERG) Status Was Recorded.

FINDINGS

DISEASE	TOTAL	MEN	WOMEN	AGE OF ONSET MEAN + SD (YEARS)	AGE AT DIAGNOSIS MEAN+ SD (YEARS)
PAN RETINAL PIGMENTARY RETINOPATHY					
RETINITIS PIGMENTOSA	25 (80%)	18(72%)	8(28%)	17.30+ 5.3	31.48+7.68
LEBERS DISEASE	1 (3%)	1	0	2 + 1	4 + 3.5
MACULAR DYSTROPIES					
STARGARDT'S DISEASE	2 (6%)			25 + 10	28 + 15
BEST'S DISEASE	1 (3 %)	1	0	30 .5 +7.8	38.5 + 12.5
OTHER VITREORETINOPATHY					
HMD	2 (6 %)	1	1		

- Five cases among RP were syndromic . Usher was most common.
- 48.61%of total RP patients had at least one family member affected by the disease.
- Maximum had first or second degree consanguity.

DISCUSSION

As expected, RP was the most frequently IRD found in the current study.

Usher syndrome was the most frequent form of syndromic pigmentary retinopathy .

Stargardt's disease was the most frequently seen entity in the current study.

The reported frequencies of other macular dystrophies : Leber's disease(3%), HMD (6%) and Best disease (3%).

Definite diagnosis of a particular macular dystrophy was difficult due to limitation in newer genome sequencing techniques.

As expected, RP was the most frequently IRD found in the current study.

Usher syndrome was the most frequent form of syndromic pigmentary retinopathy .

REFERENCES

1. Traboulsi EI. Hope and major strides for genetic diseases of the eye. J Genet. 2009;88(4):395–397. doi:10.1007/s12041-009-0060-8
2. Chizzolini M, Galan A, Milan E, et al. Good epidemiologic practice in retinitis pigmentosa: from phenotyping to biobanking. Curr Genomics.2011; 12(4):260–266
3. Na KH, Kim HJ, Kim KH, et al. Prevalence, age at diagnosis, mortality, and cause of death in retinitis pigmentosa in Korea-a nationwide population-based study. Am J Ophthalmol. 2017;176(4):157–165.
4. Bocquet B, Lacroux A, Surget MO, et al. Relative frequencies of inherited retinal dystrophies and optic neuropathies in Southern France: assessment of 21-year data management. Ophthalmic Epidemiol. 2013;20(1):13–25.
5. Hamel C. Retinitis pigmentosa. Orphanet J Rare Dis. 2006;1:40.
6. Puech B, Kostrubiec B, Hache JC, Francois P. Epidemiology and prevalence of hereditary retinal dystrophies in the Northern France. J Fr Ophtalmol. 1991;14(3):153–164.
7. Gamundi MJ, Hernan I, Muntanyola M, et al. High prevalence of mutations in peripherin/RDS in autosomal dominant macular dystrophies in a Spanish population. Mol Vis. 2007;13:1031–1037
8. Najera C, Millan JM, Beneyto M, Prieto F. Epidemiology of retinitis pigmentosa in the Valencian community (Spain). Genet Epidemiol. 1995;12(1):37–46.
9. Boughman JA, Fishman GA. A genetic analysis of retinitis pigmentosa. Br J Ophthalmol. 1983;67(7):449–454.

Outcome of Single Low Dose Suprachoroidal Triamcinolone Acetonide in non-infectious uveitis

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PURPOSE: The purpose was to study the anatomical and functional outcome following single low-dose suprachoroidal triamcinolone acetonide (LD-SCTA) (2 mg) injection in noninfectious posterior uveitis.

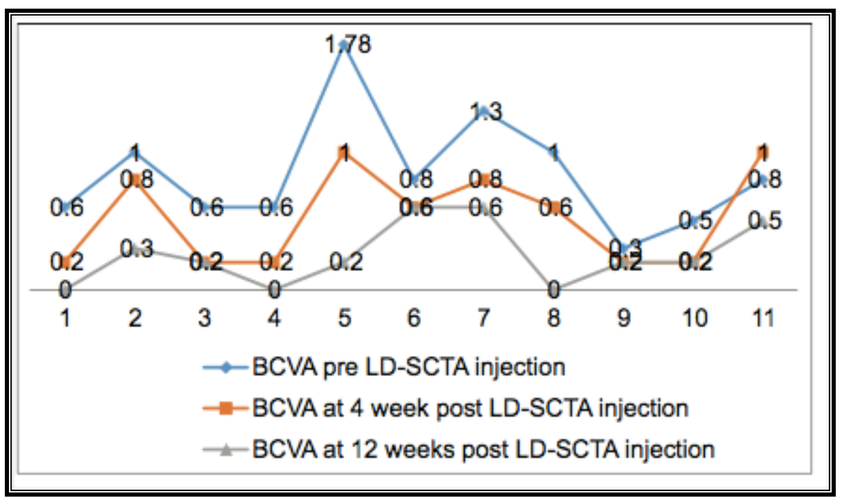
METHODS: Eleven patients with macular edema (ME) more than 280**µm** secondary to noninfectious uveitis were included in the study. A single LD-SCTA (0.5 ml) injection was performed in the study eye with the help of a novel suprachoroidal microneedle (Pricon, Iscon Surgicals, Jodhpur, Rajasthan, India). The study parameters were noted at 4 and 12 weeks post LD-SCTA injection.

Pricon Surgical 30Ga needle with a stop and 0.9 mm tip length to access the suprachoroidal space

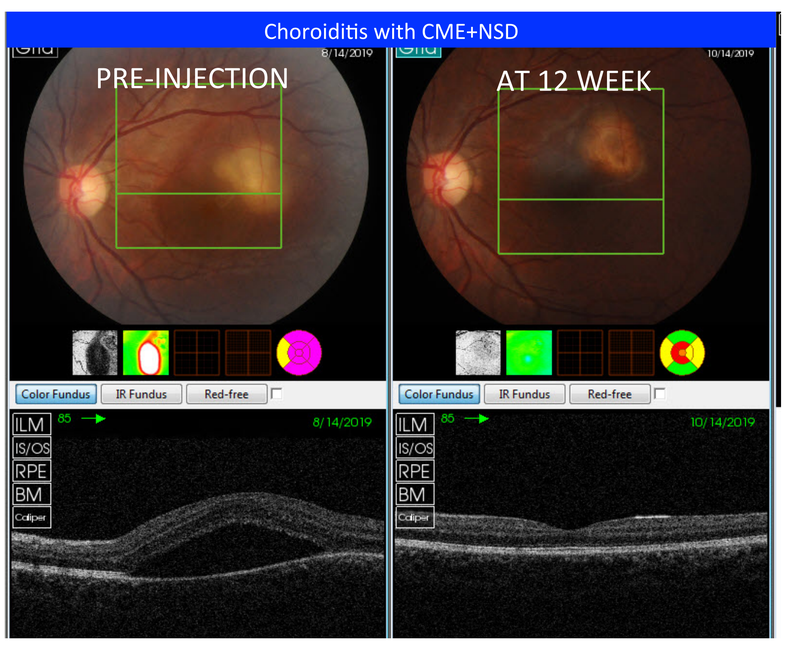
Baseline demographic and clinical characteristics

Parameters	*n* (%)
Female	5/11 (45.6)
Age (years)	42.36±15.98
Posterior uveitis distribution	
Intermediate uveitis/pars planitis	4
Vasculitis	3
Choroiditis/choroidal granuloma	2
VKH syndrome	2

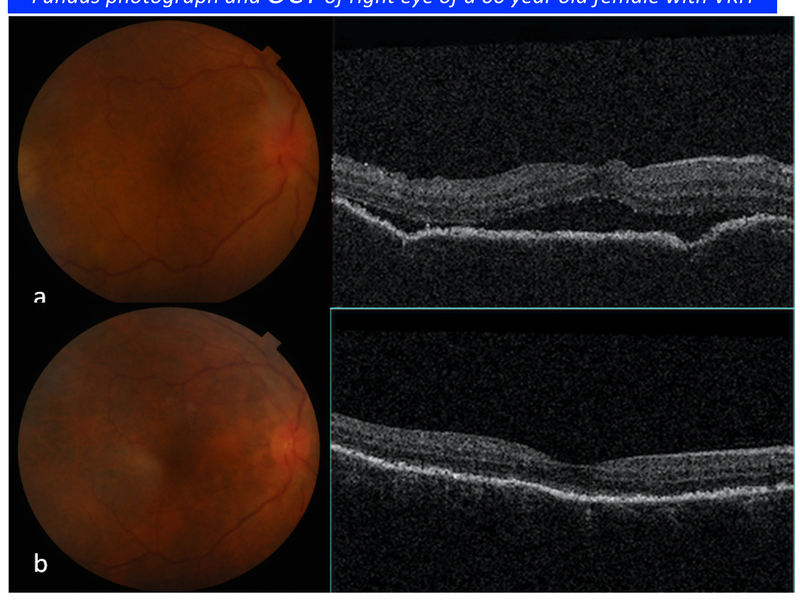
RESULTS: Ten of 11 patients had a significant decrease in central macular thickness (CMT). The mean CMT measurement at baseline was 513.6 ± 191.73 **µm** for the 10 patients who responded to the treatment, which reduced significantly to 265.1 ± 34.72 **µm** ($P < 0.003$) and 260.6 ± 34.72 **µm** ($P < 0.002$) at 4 and 12 weeks, respectively. The mean best-corrected visual acuity (BCVA) at baseline was 0.84 ± 0.41 logMAR unit which improved to 0.52 ± 0.33 ($P < 0.001$) and 0.25 ± 0.22 ($P < 0.000$) at weeks 4 and 12, respectively. The mean intraocular pressure at baseline recorded was 16.36 ± 2.97 mmHg, 19.45 ± 4.80 mmHg ($P = 0.06$) at 4 weeks, and 17.27 ± 2.53 mmHg ($P = 0.35$) at 12 weeks. One eye which did not respond to LD-SCTA was a case of recurrent Vogt–Koyanagi–Harada disease.

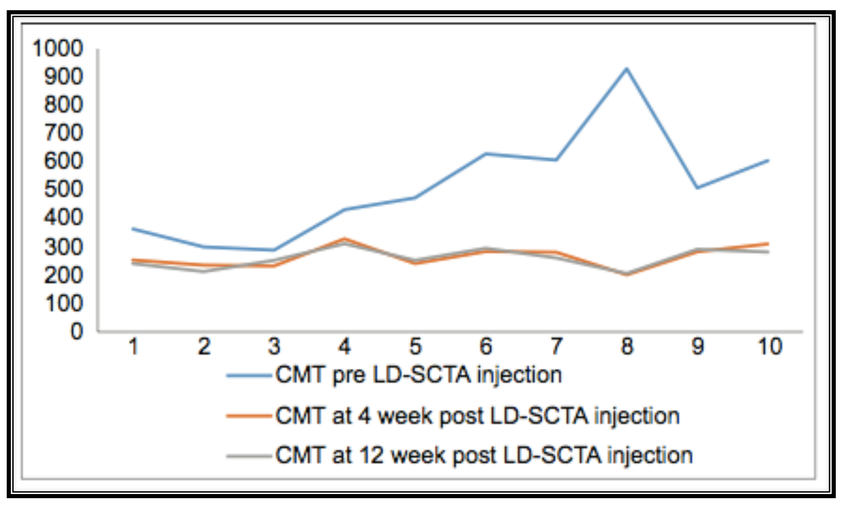


Line diagram showing individual change in best-corrected visual acuity compared to baseline at 4 and 12 weeks, respectively. BCVA: Best-corrected visual acuity



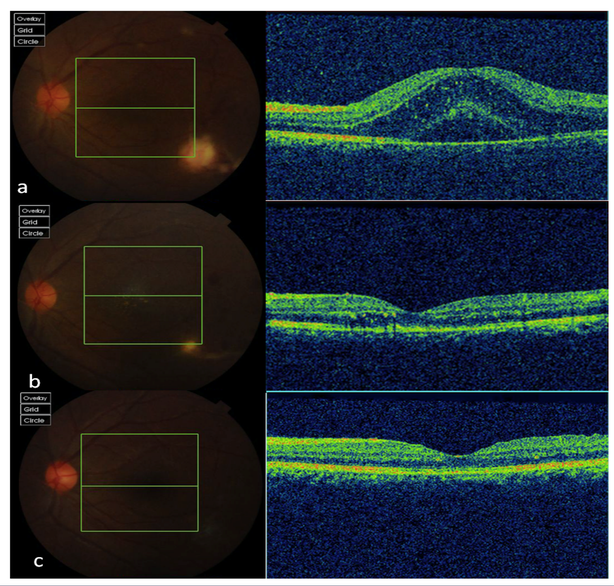
Fundus photograph and OCT of right eye of a 60 year old female with VKH





Line graph showing central macular thickness in treatment success study subjects at baseline and at 4 and 12 weeks. CMT: Central macular thickness

Fundus photograph and OCT of left eye of a 23 year old male patient with Eales' disease with central macular edema.



a: At baseline, fundus photo showing exudation and sheathing along the inferotemporal arcade with central macular edema (CME)

b: At 4 weeks, decrease in size of exudation and sheathing. OCT shows resolution of macularedema with decrease in hyperreflective foci

c: At 12 weeks, complete resolution of exudation and sheathing. The foveal contour is normal on OCT.

CONCLUSION: Single LD-SCTA injection is efficacious in reducing CMT in ME, improving BCVA, and controlling the inflammation in noninfectious posterior uveitis. LD-SCTA can be used as a first-line therapy in noninfectious uveitis over other routes of steroid administration with a favorable outcome and safety profile.

REFRENCES

1.Rathinam S R, Namperumalsamy P. Global variation and pattern changes in epidemiology of uveitis. Indian J Ophthalmol 2007; 55:173-83
2.Das D, Bhattacharjee H, Das K, Tahiliani PS, Bhattacharyya P, Bharali G, et al. The changing patterns of uveitis in a tertiary institute of northeast India. Indian J Ophthalmol. 2015; 63:735–7.
3.Lee JH, Mi H, Lim R, Ho SL, Lim WK, Teoh SC, Agrawal R. Ocular autoimmune systemic inflammatory infectious study–report 3: posterior and panuveitis. Ocul Immunol Inflamm. 2019; 27(1):89-98.
4.Levin MH, Pistilli M, Daniel E, Gangaputra SS, Nussenblatt RB, Rosenbaum JT, Suhler EB, Thorne JE, Foster CS, Jabs DA, Levy-Clarke. Incidence of visual improvement in uveitis cases with visual impairment caused by macular edema. Ophthalmology. 2014; 121 (2):588–595.e1.
5.Pivetti-Pezzi P, Accorinti M, La Cava M, Colabelli Gisoldi RA, Abdulaziz MA. Endogenous uveitis: an analysis of 1,417 cases. Ophthalmologica. 1996; 210(4):234–238.
6.Lardenoye CWTA, van Kooij B, Rothova A. Impact of macular edema on visual acuity in uveitis. Ophthalmology. 2006; 113(8):1446–1449.
7.Rothova A, Suttorp-van Schulten MS, Frits Treffers W, Kijlstra A. Causes and frequency of blindness in patients with intraocular inflammatory disease. Br J Ophthalmol. 1996; 80:332–336
8.Ormaechea MS, Hassan M, Onghanseng N, Park JH, Mahajan S, Al-Kirwi KY, Uludag G, Halim MS, Schlaen A, Sepah YJ, Do DV. Safety of systemic therapy for noninfectious uveitis. Expert Opin Drug Saf. 2019; 18(12):1219-35.
9.Das D, Serasiya S, Misra DK. Complications and safety profile of posterior sub-tenon triamcinolone injections in sclero-uveitis cases in a tertiary institute of northeast India. Adv Ophthalmol Vis Syst. 2018 ;8(6):231-2
10.Hsi-Kung Kuo MD, Chou Lai MD, Po-Chiung Fang MD, Mei-Ching Teng MD. Ocular complications after a sub-tenon injection of triamcinolone acetonide for uveitis. Chang Gung Med J. 2005; 28(2):85-9.
11.Sallam A, Taylor SR, Lightman S. Review and update of intraocular therapy in noninfectious uveitis. Curr Opin Ophthalmol. 2011; 22(6):517-22.
12.Chiang B, Venugopal N, Grossniklaus HE, Jung JH, Edelhauser HF, Prausnitz MR. Thickness and closure kinetics of the suprachoroidal space following microneedle injection of liquid formulations. Invest Ophthalmol Vis Sci. 2017; 58(1):555-64.
13.Patel SR, Berezovsky DE, McCarey BE, Zarnitsyn V, Edelhauser HF, Prausnitz MR. Targeted administration into the suprachoroidal space using a microneedle for drug delivery to the posterior segment of the eye. Invest Ophthalmol Vis Sci. 2012; 53(8): 4433-41.
14.Patel SR, Lin AS, Edelhauser HF, Prausnitz MR. Suprachoroidal drug delivery to the back of the eye using hollow microneedles. Pharm Res. 2011; 28(1):166-76.
15.Yeh S, Kurup SK, Wang RC, Foster CS, Noronha G, Nguyen QD, Do DV, DOGWOOD Study Team. Suprachoroidal injection of triamcinolone acetonide, CLS-TA, for macular edema due to noninfectious uveitis: a randomized, phase 2 study (DOGWOOD). Retina. 2019; 39(10):1880-8. estigators. Efficacy and Safety of Suprachoroidal CLS-TA for Macular

“MORE THAN MEETS THE EYE” - UVEITIS MASQUERADE SYNDROMES

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The term “masquerade syndrome” was 1st used in 1967 by Theodore to describe a case of conjunctival carcinoma manifesting as chronic conjunctivitis. UMS are diseases that can mimic any form of intraocular inflammation. They include systemic & ocular pathologies that manifest with intraocular infiltrating cells, not secondary to an immune-mediated or infectious process. Incorrect diagnosis of the UMS may have severe consequences. The list of masqueraders is extensive, but it can be simplified into neoplastic & nonneoplastic disorders. Uveitis Masquerades could be the harbinger of a grave systemic condition. They need for a high index of suspicion & appropriate prompt evaluation using Multimodal Imaging. Important to look into systemic details especially in cases presenting with apparently innocuous findings such as “CSCR”/ “AMD”/ “VITRITIS”. Diagnosis of the occult primary malignancy can sometimes be challenging. Team approach is extremely beneficial.

Table 1. Non-malignant ocular disoders masquerading as uveitis

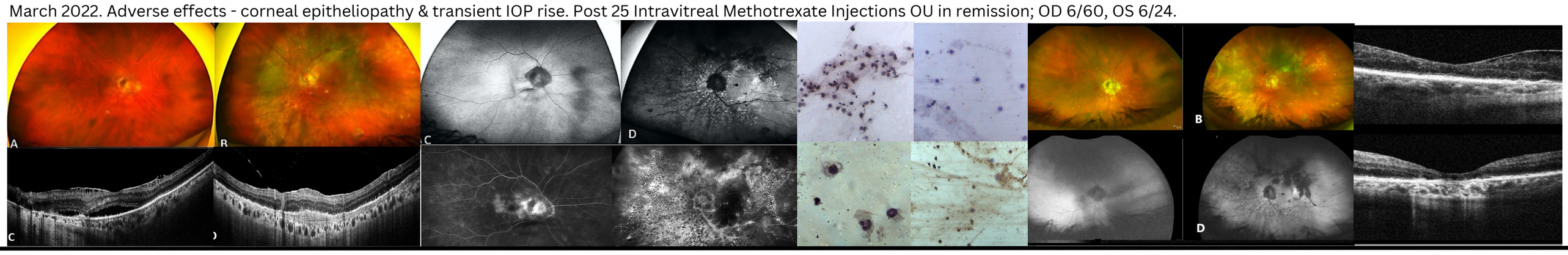
Intraocular foreign body	Multiple sclerosis
Retinal detachment	Intraocular infections
Myopic degeneration	Drug reactions
Pigment dispersion syndrome	Post-vacination
Retinal degeneration	

Table 2. Malignant ocular disorders masquerading as uveitis

Intraocular lymphomas	Ciliary body
Non-Hodgkin’s lymphoma of central nervous system	Choroid
Systemic non-Hodgkin’s lymphoma metastatic to eye	Paraneoplastic syndromes
Hodgkin’s lymphoma	Cancer-associated retinopathy
Carcinoma metastatic to eye	Bilateral diffuse uveal melanocytic proliferation
Breast	Childhood carcinoma
Kidney	Retinoblastoma
Lung	Leukemia
Uveal Melanoma	Medulloepithelioma
Iris	

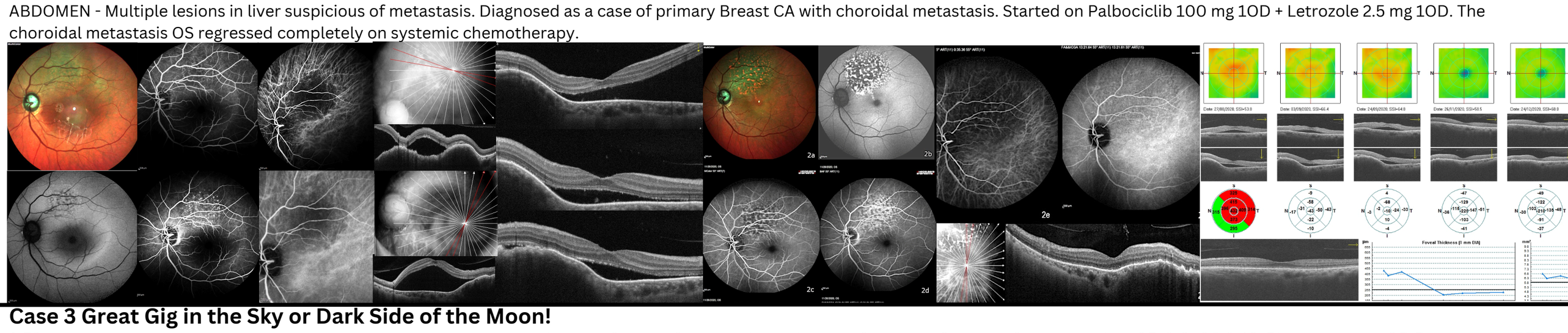
Case 1 A Leopard Can’t Change It’s Spots!

A 57-year-old female first presented to us 14 years ago (May 2010) with diminution of vision OU. BCVA was 6/18 OU. Recurrent episodes of B/L low-grade vitritis over next 3 years, that responded well to oral & topical steroids. Uveitis panel [TB / SARCOIDOSIS/ SYPHILIS/ HIV] - non-contributory. Lost to follow-up for a period of seven years.[2014-2021]. She subsequently returned in January 2021 with gradual painless diminution of vision & floaters OU x 1 year. BCVA - OD CFCF, OS 6/18. IOP- normal OU, OU vitreous cells 2+. TLC 11400/cu. mm with mild neutrophilia (76%), lymphopenia (18%) and normal peripheral blood smear. Chest X-ray few nodular opacities in b/L LL zones. USG abdomen- WNL CSF analysis showed high glucose 86, very high CSF protein 131 (15- 45 normal range), TLC 5/cu. mm, DLC 0% neutrophils & 100% lymphocytes. CSF morphology using cytospin smear showed occasional lymphonuclear cells. No atypical cells were seen. Cellular bone marrow preparation - hematopoetic cells of all series (Myeloid:Erythroid =3 :1) & no morphological evidence of lymphoma infiltration. 18-FDG PET CT scan whole body- no abnormal hypermetabolic focus or mass lesion. Few hypermetabolic mediastinal & hilar Lymph nodes were seen. EBUS-TBNA smears of mediastinal lymph nodes - reactive lymphadenitis, ZN stain- negative. Histopathology -No evidence of metastatic carcinoma seen. IHC- No definite evidence of lymphoproliferative disease was seen in cell block. Diagnostic Vitreous Biopsy OS showed atypical lymphoid cells with few mature lymphocytes & macrophages. IHC stain B-cell (CD19,CD20) was negative. T-Cell (CD3, CD4) was positive in a few cells. Morphological features were suggestive of lymphoma. Diagnosis - Bilateral Primary Vitreoretinal lymphoma of T-cell origin (ocular involvement only). OU Intravitreal methotrexate injections administered at a dose of 400 micrograms in 0.1 ml. Frenkel regimen twice a week for four weeks—induction phase, followed by once a week for eight weeks—consolidation phase, followed by once a month for nine months—maintenance phase. Total of twenty-five injections/eye completed from March 2021-March 2022. Adverse effects - corneal epitheliopathy & transient IOP rise. Post 25 Intravitreal Methotrexate Injections OU in remission; OD 6/60, OS 6/24.



Case 2 Lumpy Bumpy Choroidal Conundrum!

An 82 Year Old female , C/O OS diminution of vision associated with redness of the eye and mild pain since 20 days. BCVA OD 6/9, OS 6/24. OU Quiet, No T-Sign on B-SCAN, OCT OS gross choroidal elevation, obscured choriocapillaris layer with choroidal & RPE undulation, SRF with shaggy photoreceptors. FFA Early phase hypofluorescence; Late phase pinpoint leakage areas are seen on the mass. Mantoux test, TPHA, Serum ACE levels, Quantiferon TB gold : All Normal. Differential Diagnosis: Choroidal Metastasis, Choroidal Melanoma, Posterior Scleritis. Past History - Infiltrating ductal cell carcinoma of the breast [ER+, PR+, Her Neu2 negative] treated with MRM, she was on Tamoxifen since last 3 years. CT SCAN THORAX - Mediastinal lymphadenopathy and right pleural effusion, CT SCAN ABDOMEN - Multiple lesions in liver suspicious of metastasis. Diagnosed as a case of primary Breast CA with choroidal metastasis. Started on Palbociclib 100 mg 1OD + Letrozole 2.5 mg 1OD. The choroidal metastasis OS regressed completely on systemic chemotherapy.

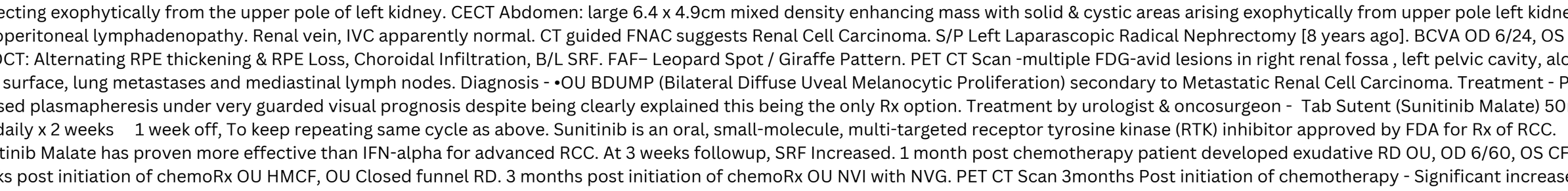


Case 3 Great Gig in the Sky or Dark Side of the Moon!

A 58 yr old male presented to us with decreased vision in the right eye for past 2 weeks & in the left eye for past 3 months. Seen e/w 3 months prior- OD 6/9, OS 6/12. Diagnosed e/w: OD Paramacular PED, OS CSCR with PED, NSD. Past Medical History - S/P B/L ESWL for renal stone 11 yrs ago. USG Abdomen 8 years back. Large 55 x 44 mm solid hypoechoic mass with heterogenous hyperechoic areas projecting exophytically from the upper pole of left kidney. CECT Abdomen: large 6.4 x 4.9cm mixed density enhancing mass with solid & cystic areas arising exophytically from upper pole left kidney. No retroperitoneal lymphadenopathy. Renal vein, IVC apparently normal. CT guided FNAC suggests Renal Cell Carcinoma. S/P Left Laparascopic Radical Nephrectomy [8 years ago]. BCVA OD 6/24, OS 6/36. SS-OCT: Alternating RPE thickening & RPE Loss, Choroidal Infiltration, B/L SRF. FAF– Leopard Spot / Giraffe Pattern. PET CT Scan -multiple FDG-avid lesions in right renal fossa , left pelvic cavity, along the liver surface, lung metastases and mediastinal lymph nodes. Diagnosis - •OU BDUMP (Bilateral Diffuse Uveal Melanocytic Proliferation) secondary to Metastatic Renal Cell Carcinoma. Treatment - Patient refused plasmapheresis under very guarded visual prognosis despite being clearly explained this being the only Rx option. Treatment by urologist & oncosurgeon - Tab Sutent (Sunitinib Malate) 50mg 1 tab daily x 2 weeks 1 week off, To keep repeating same cycle as above. Sunitinib is an oral, small-molecule, multi-targeted receptor tyrosine kinase (RTK) inhibitor approved by FDA for Rx of RCC. Sunitinib Malate has proven more effective than IFN-alpha for advanced RCC. At 3 weeks followup, SRF Increased. 1 month post chemotherapy patient developed exudative RD OU, OD 6/60, OS CF 1ft. 7 weeks post initiation of chemoRx OU HMCF, OU Closed funnel RD. 3 months post initiation of chemoRx OU NVI with NVG. PET CT Scan 3months Post initiation of chemotherapy - Significant increase in size & FDG avidity of lesions. Patient refused EBRT to eye under very guarded visual prognosis despite being clearly explained this being the only Rx option. So Palliative Rx Tab Evertor (Everolimus) 10mg daily x 15 days started, followed by Tab Evertor 10mg/5mg daily on alternate days. Everolimus is a protein kinase mammalian target of Rapamycin (mTOR) inhibitor. Subsequently, patient lost to follow up.

Case 4 Double Trouble: Yet Another Lumpy Bumpy Choroidal Conundrum!

58 year old male C/O painless gradually progressive diminution of vision OD. BCVA OD 6/18, OS 6/6. OCT OU Gross choroidal elevation, obscured choriocapillaris layer with choroidal & RPE undulation, SRF with shaggy photoreceptors, speckles. Late phase OU FFA intense leakage at the edges of mass lesion, ICGA hypocyanescence. US B Scan OD large superior subretinal medium reflective homogenous mass lesion abutting ONH with undulating surface, exudative RD; OS large inferior subretinal medium reflective homogenous mass lesion with exudative RD. CECT Chest Lung RUL Apical Segment Mass lesion with heterogenous spiculated margin, encasing Right superior pulmonary artery, RUL Bronchus causing luminal narrowing. USG Abdo Operated Gall bladder. MRI Brain No significant abnormality. MRI Orbit B/L RD. PET CT Mild right pleural effusion – likely malignant. An ill-defined intensely FDG avid (SUV max: 20.15) pulmonary mass, displaying spiculated margins seen arising from the right hilar region invading the right lower paratracheal & right hilar lymph nodes measuring approximately 7.0 x 4.4 x 7.7 cm – suggestive of locally advanced primary malignant pathology. Multiple discrete/confluent intensely FDG avid (SUVmax: 13.9) B/L supraclavicular, right upper paratracheal, B/L lower paratracheal, subaortic, subcarinal, paraesophageal & B/L hilar mediastinal lymph nodes – S/O extensive lymphatic metastases/invasion. Multiple pulmonary nodules are scattered in B/L lung fields – S/O diffuse pulmonary metastases. Few FDG avid lytic osseous lesions are seen involving the right scapula & left ischium – suggestive of skeletal metastases. USG guided FNAC of Right Supraclavicular lymph nodes: Metastatic mucinous adenocarcinoma - Stage 4b NSCLC (Mucinous adenocarcinoma). Patient started on Palliative Chemotherapy (Paclitaxel, Carboplatin, Bevacizumab). The choroidal metastasis OU regressed after 5 cycles of chemotherapy, though PET CT showed residual primary malignant pathology & residual lymphatic metastases.



References

1. Theodore, F.H., 1967. Conjunctival carcinoma masquerading as chronic conjunctivitis. Eye Ear Nose Throat Mon. 46 (11), 1419–1420. 2. Frenkel S., Hendler K., Siegal T., Shalom E., Pe’er J. Intravitreal methotrexate for treating vitreoretinal lymphoma: 10 years of experience. Br. J. Ophthalmol. 2008;92:383–388. 3. Mathis T, Jardel P, Loria O, Delaunay B, Nguyen AM, Lanza F, Mosci C, Caujolle JP, Kodjikian L, Thariat J. New concepts in the diagnosis and management of choroidal metastases. Prog Retin Eye Res. 2019 Jan;68:144-176. 4. Gass JD, Gieser RG, Wilkinson CP, Beahm DE, Pautler SE. Bilateral diffuse uveal melanocytic proliferation in patients with occult carcinoma. Arch Ophthalmol. 1990;108(4):527–33.

GOOGLE TRENDS ABOUT RETINOPATHY OF PREMATURITY IN TURKEY

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INTRODUCTION

- Retinopathy of Prematurity (ROP) is a critical condition affecting premature infants, requiring timely diagnosis and intervention to prevent adverse outcomes
- Understanding public interest and awarenes can aid in assessing educational and healthcare needs related to this condition
- This study aims to analyze search trends related to ROP on Google Trends to understand the informational needs concerning ROP in Turkey.

METHODS

- Google Trends program was used
- Retrospective (2018-2023 years) in Turkey
- Search terms including
  - "premature baby/prematüre bebek«
  - "retinopathy of prematurity/prematüre retinopatisi"
  - "eye doctor/göz doktoru"
  - "what is ROP?/ROP nedir?"
  - "ROP treatment/ROP tedavisi"

FINDINGS

- The most frequently searched term was "ophthalmologist"
- The term "premature baby« consistently peaked in November each year from 2019 to 2023.
- A higher frequency of searches for "premature baby" and "eye doctor" in the eastern, southeastern, and some northern provinces of Turkey

CONCLUSIONS

- We obtained information about the internet search behavior of the public regarding ROP in Turkey and especially the need for an ophthalmologist who performs ROP examination
- Google Trends is a useful platform in ophthalmology for educational and research purposes

References:

1. ŞAHIN, Alparslan; ŞAHIN, Muhammed; TÜRKCÜ, Fatih Mehmet. YouTube as a source of information in retinopathy of prematurity. Irish Journal of Medical Science (1971-), 2019, 188: 613-617.
2. UZUN, Aslihan; SAHIN, Asena Keles. Assessment of reliability and quality of YouTube videos as an information source in retinopathy of prematurity treatment. Med Science, 2022, 11: 1613-1618.
3. SUTEJA, Rani Sukma Ayu, et al. Premature Indonesia Support Group in Health Communication: Efforts to Prevent Retinopathy of Prematurity in Indonesia. Jurnal Komunikasi Profesional, 2023, 7.3: 427-439.
4. PRADEEP, Tejus, et al. More than just a stye: identifying seasonal patterns using google trends, and a review of infodemiological literature in ophthalmology. Orbit, 2023, 42.2: 130-137.

A RARE, UNFORTUNATE, BLINDING FLAW: TOTAL APLASIA OF THE OPTIC NERVE AND RETINA

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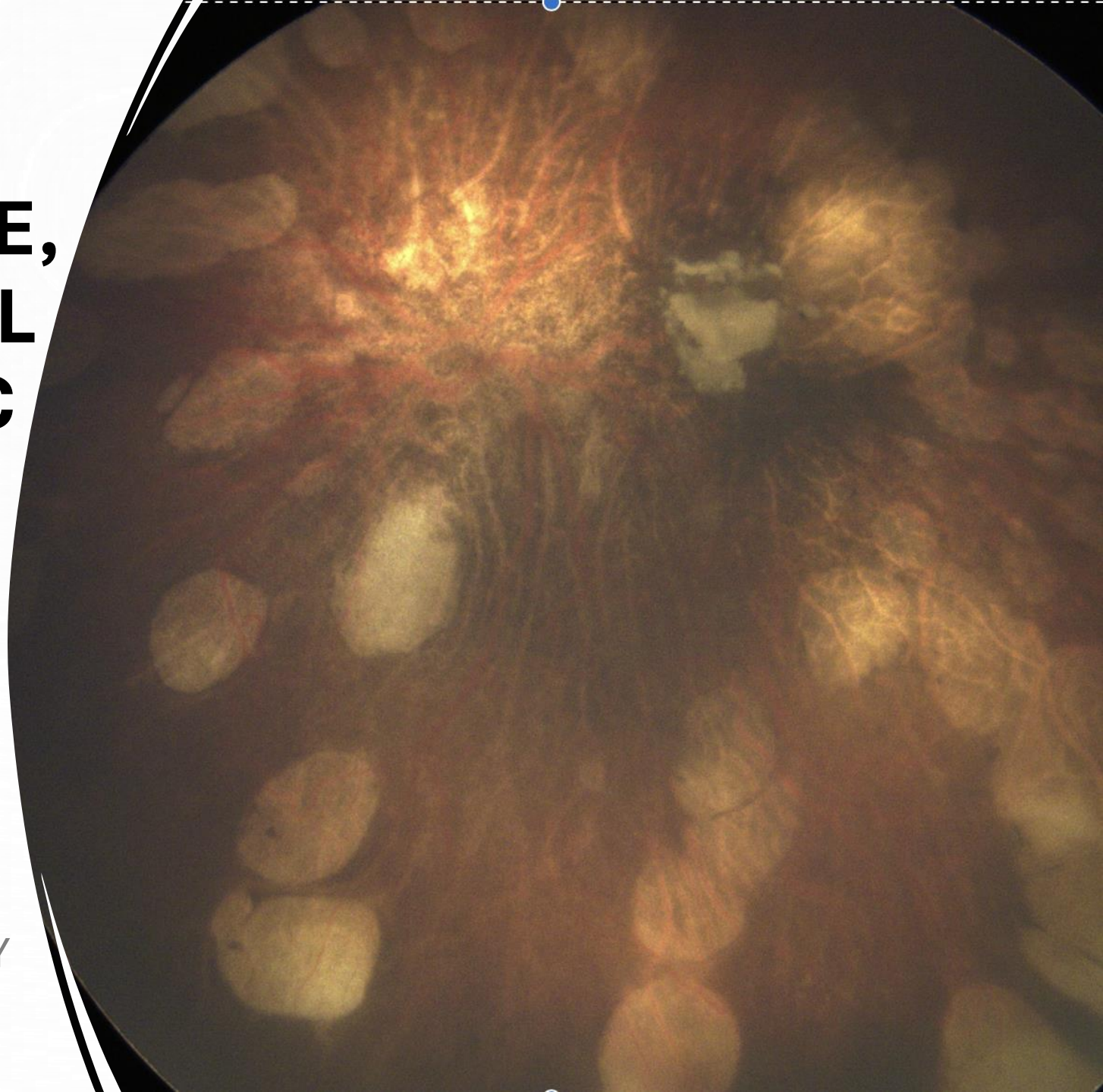
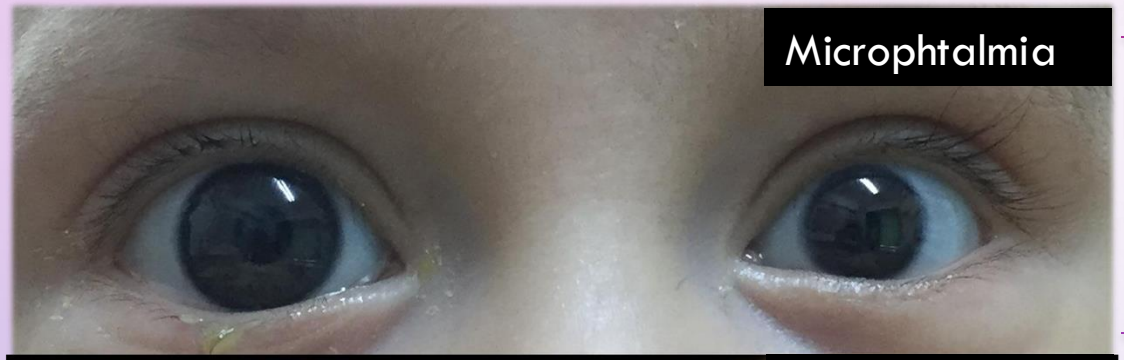
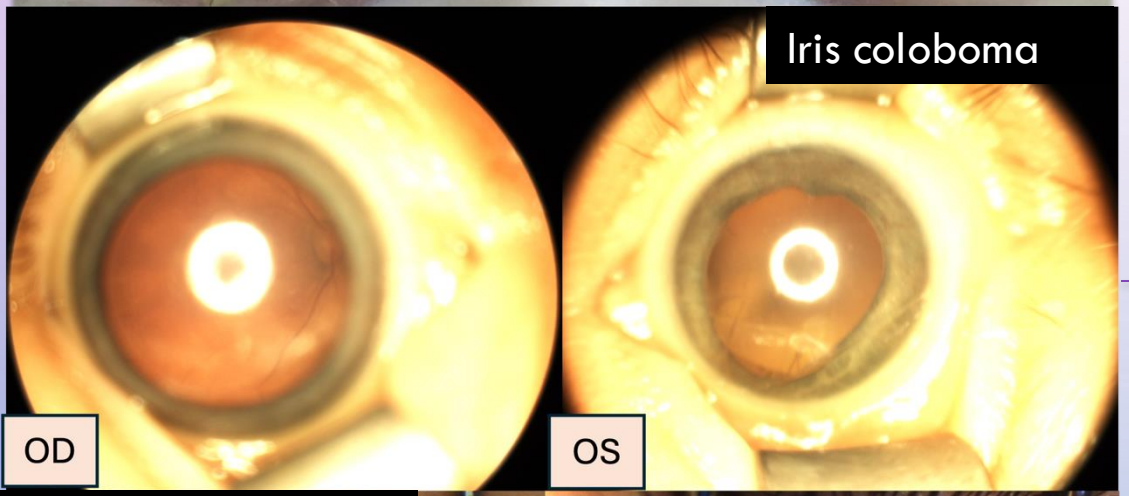
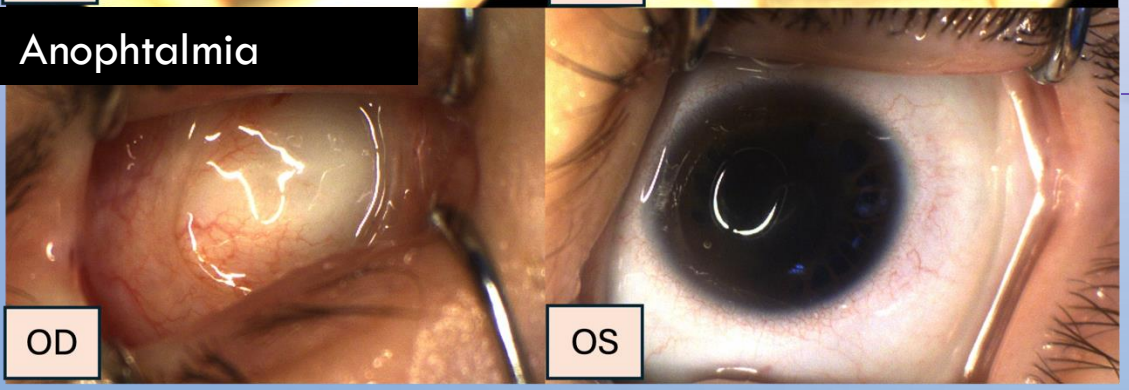


APLASIA OF THE OPTIC NERVE AND RETINA







Optic nerve aplasia (ONA) is a rare congenital developmental anomaly characterized by the absence of the optic nerve and retina, which is sometimes difficult to diagnose.

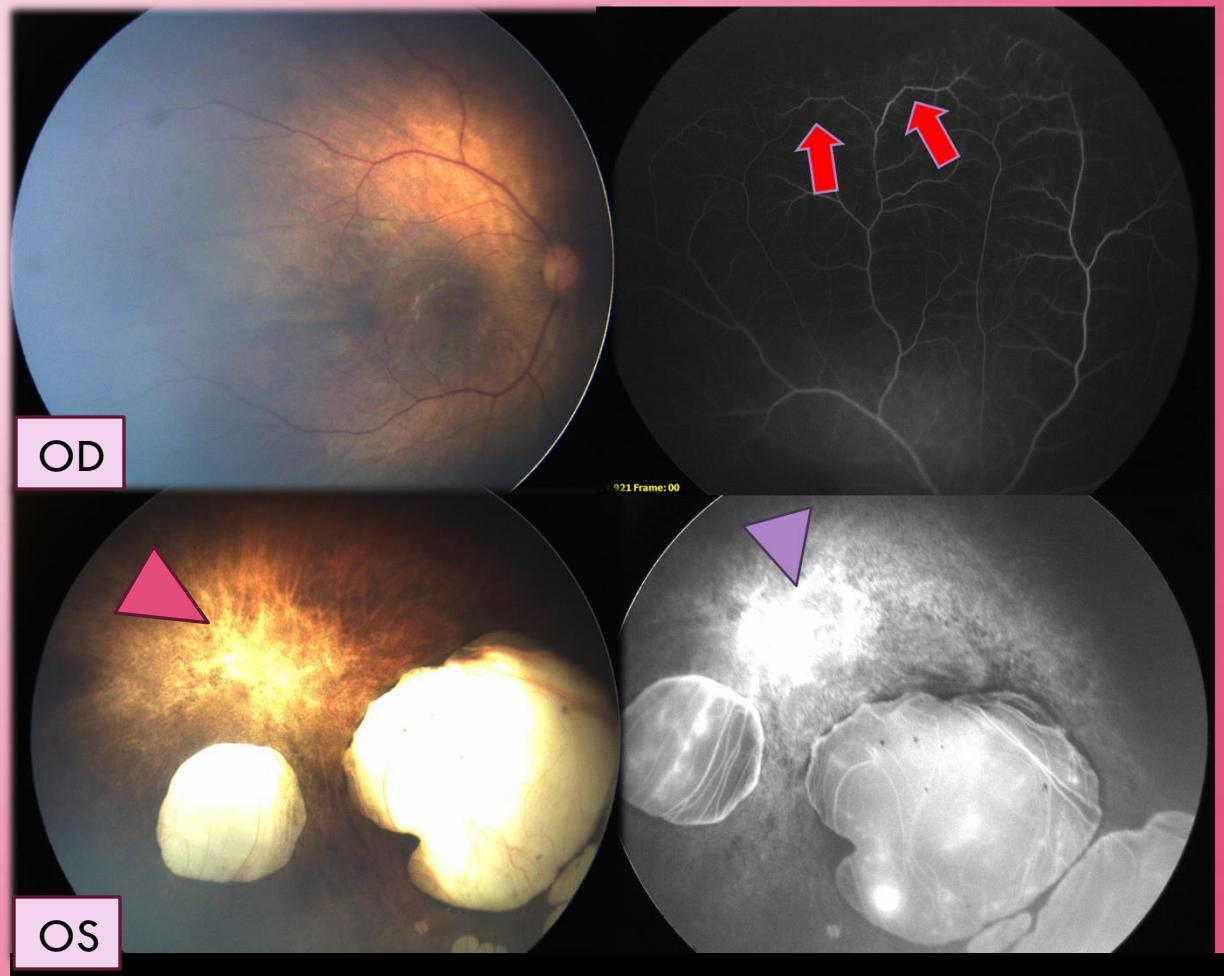
Unilateral ONA comprises the majority of the reported cases, can be associated with other ocular abnormalities (commonly; microphthalmia, microcornea, iris coloboma, retinal dysplasia, persistent fetal vasculature (PFV),cataract)

Bilateral cases of ONA, rarely encountered, more likely to be associated with CNS and geneticabnormalities.

Our aim is to evaluate the ocular and systemic features of ONA cases and to emphasize the importance of multidisciplinary approach especially for bilateral cases.

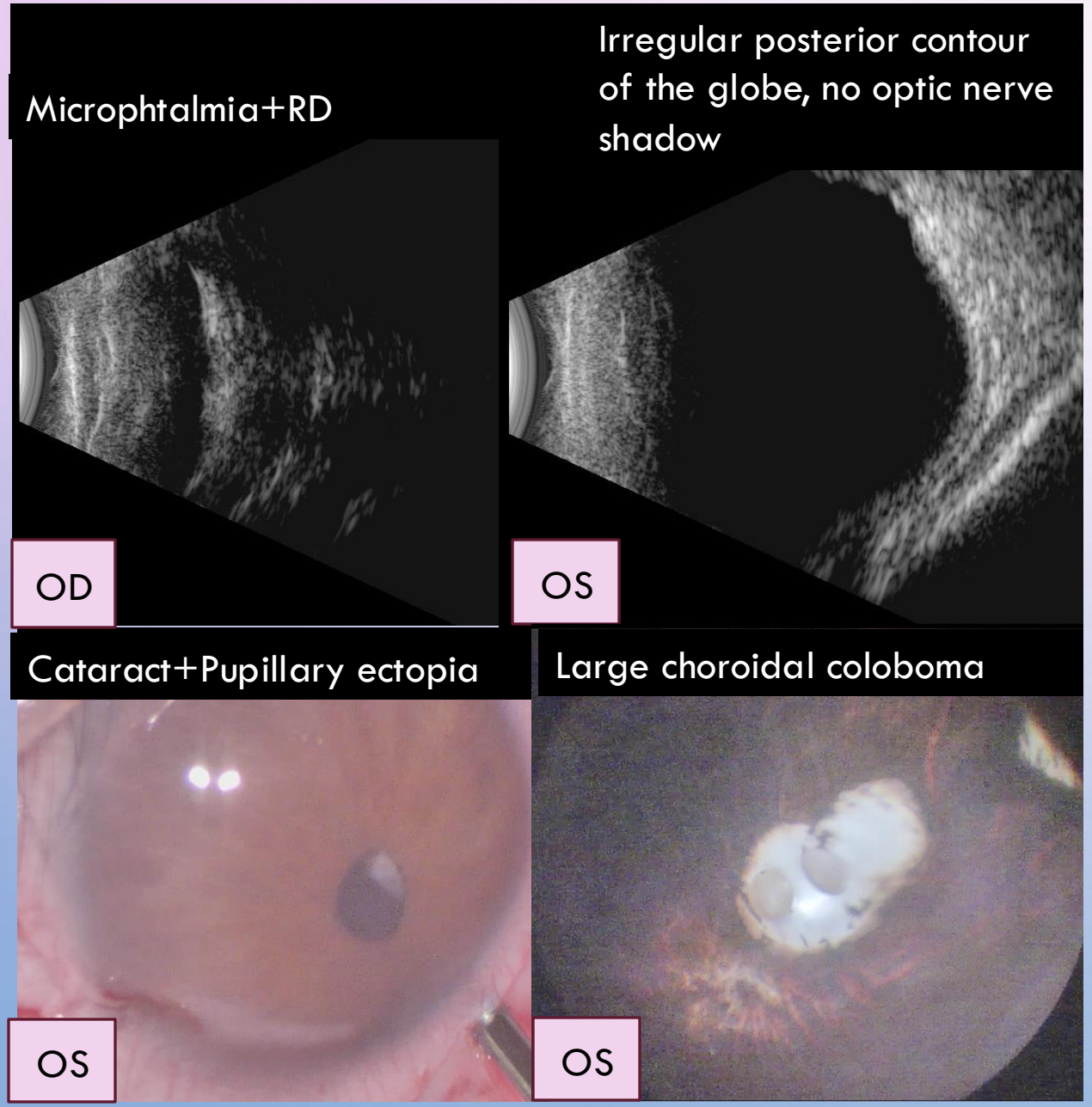
METHODS-PATIENTS

- 5 cases diagnosed as ONA were retrospectively analyzed.
- 3 girls, 2 boys
- Mean age of diagnosis was 1.5 months.
- Fellow eyes of unilateral cases (80%)
    - 1 Normal (25%)
    - 2 Anophtalmus (50%)
    - 1 Peripheral avascular retina (PAR) (25%)
    - 3 of them (60%; 1 bilateral, 2 unilateral) had consanguinity between parents.
- Microphtalmia and choroidal coloboma was the most common features recorded in all of the eyes with ONA (100%).
- Iris coloboma in 3 of the cases (60%) which are all unilateral.



4 mo old baby boy,
Fundus and FA of OD; Macula natural, peripheral vascular loops and avascular retina (PAR) in FA. (arrows)
OS; Aplasia of Optic nerve (arrow head) and retinal vessels.

FINDINGS



3 years old girl, had bilateral aplasia of the optic nerve and retina and had accompanying neurological problems.

- Deletion in OTX2 gene was detected in the bilateral case.
- OD; Corneal leucoma was present, closed funnel retinal detachment was detected in B-Scan, MRI showed the absence of the optic nerve.
- OS; congenital cataract accompanied with pupillary ectopia was seen in OS in addition to the large choroidal coloboma and total aplasia of optic nerve&retina.

All of the eyes with ONA were evaluated and directed for conformer or prosthesis over the globe for cosmesis.

RESULTS

Case	Unilateral/Bilateral	Additional ocular findings	Fellow eye status	Associated systemic pathologies	Consanguinity
1	Unilateral	-Microphtalmia -Iris coloboma -Choroidal coloboma	Natural	-	+
2	Bilateral	-Choroidal coloboma -Cataract -Pupillary ectopia	-Severe Microphtalmia -PFV -RD	Mental motor Retardation	+
3	Unilateral	-Microphtalmia -Choroidal coloboma	-Vitreous hemorrhage -PAR in FFA	-	+
4	Unilateral	-Microphtalmia -Iris coloboma -Choroidal coloboma	-Anophtalmus	-	-
5	Unilateral	-Microphtalmia -Iris coloboma -Choroidal coloboma	-Anophtalmus	Corpus callosum agenesis	-

PAR: Peripheral avascular retina
NA: Not available

CONCLUSIONS

- Optic nerve and retinal aplasia belongs to the spectrum of pathologies of ocular dysgenesis (Iris coloboma→ Anophtalmia)

- All of our cases had microphtalmia and choroidal coloboma which belong tothe spectrum of ocular dysgenesis and can be classified as components of total aplasia of optic nerve and retina.
- Bilateral optic nerve aplasia may often be accompanied by congenital CNS/Neurological problems likely to be relatedwith detectable genetic mutation.
- Less risk for subsequent generations in cases without a family history or consanguinity

- Fellow 'unaffected' eye may be evaluated with FA, to detect any peripheral retinal vascular abnormalities!

No visual potential; managemnt is usually for cosmesis. Special support for congenital blindness to be best integrated with society.

Author	Total number	Unilateral/ Bilateral	Additional ocular findings	Associated systemical pathologies
Weither et al (1977)	13	Unilateral	-Microphtalmia	-
Hotchkiss et al (1971)	3	Unilateral	-Microphtalmia	2+
Ghassemi (2012)	3	2:1	-Choroidal coloboma -PFV	1+
Zhou et al (2020)	7	3:4	-Microphtalmia: 7 -Iris coloboma: 3 -Choroidal coloboma: 3 -Cataract: 3	1+
Saffren et al	9	2:7	-Glaucoma -Microcornea -Iris coloboma -Choroid coloboma -PFV	
Single case reports	20	13:7	-Microconea: 4 -Choroidal coloboma: 2 -Microphtalmia: 2 -Aniridia: 2 -Iris coloboma: 2 -Lens coloboma -Posterior staphiloma -Glaucoma -RD	7+

References

1. Margo CE, Hamed LM, Fang E, Dawson WW. Optic nerve aplasia. Arch Ophthalmol. 1992;110:1610–1613.
2. Weiter JJ, McLean IW, Zimmerman LE. Aplasia of the optic nerve and disk. Am J Ophthalmol. 1977;83:569–576.
3. Dakubo GD, Wang YP, Mazerolle C, Campsall K, McMahon AP, Wallace VA. Retinal ganglion cell-derived sonic hedgehog signaling is required for optic disc and stalk neuroepithelial cell development. Development. 2003;130:2967–2980.
4. TaylorD.Developmental abnormalities of the optic nerve and chiasm. Eye. 2007;21:1271. doi:10.1038/sj.eye.6702851.
5. Meire F, Delpierre I, Brachet C, et al. Nonsyndromic bilateral and unilateral optic nerve aplasia: first familial occurrence and potential implication of CYP26A1 and CYP26C1 genes. Mol Vis. 2011;17:2072–2079.
6. Ohuchi H, Taniguchi K, Miyaishi S, et al. Autopsy case of bilateral optic nerve aplasia with microphthalmia: neural retina formation is required for the coordinated development of ocular tissues. Acta Med Okayama. 2016;70(2):131–137. doi:10.18926/AMO/54192.
7. Nicholson B, Ahmad B, Sears JE. Congenital optic nerve malformations. Int Ophthalmol Clin. 2011;51 (1):49–76. doi:10.1097/IIO.0b013e3182009809.
8. Brodsky MC, Atreides SP, Fowlkes JL, Sundin OH. Optic nerve aplasia in an infant with congenital hypo- pituitarism and posterior pituitary ectopia. Arch Ophthalmol. 2004;122(1):125–126. doi:10.1001/ archopht.122.1.125.
9. Storm RL, PeBenito R. Bilateral optic nerve aplasia associated with hydranencephaly. Ann Ophthalmol. 1984;16:988–992.
10. BrodskyMC.Congenitalopticdiscanomalies.In:TaylorD,HoytG, eds. Pediatric Ophthalmology and Strabismus. 3rd ed. Baltimore: Elsevier-Saunders; 2005:637-8.
11. Saffren BD, Yassin SH, Geddie BE, de Faber JTHN, Blieden LS, Bhate M, Gamio S, Rutar T, Levin AV. Optic Nerve Aplasia. J Neuroophthalmol. 2022 Mar 1;42(1):e140-e146. doi: 10.1097/WNO.0000000000001246. Epub 2021 Apr 14. PMID: 33870948.
12. Ghassemi F, Bazvand F, Hosseini SS, Karkhaneh R, Ebrahimiadib N, Shekarchi B. Optic Nerve Aplasia: Case Report and Literature Review. J Ophthalmic Vis Res. 2015 Apr-Jun;10(2):187-92. doi: 10.4103/2008-322X.163779. PMID: 26425324; PMCID: PMC4568619.

Pattern of uveitis in Behçet's disease patients from a highly specialized university hospital-based tertiary care eye unit

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PURPOSE

To determine the frequency and pattern of ocular manifestations including uveitis associated with Behcet's disease (BD) in patients referred to a hospital-based tertiary care eye unit.

METHODS

This is a retrospective observational study that included BD patients referred to the Uveitis Clinic, Cairo University Hospitals. Patterns of systemic and ocular disease were documented. Treatment modalities and complications occurring during follow-up were also included .

RESULTS

Variable mean±SD or n(%)	BD patients (n=113, 208 eyes)
Age (years)	32.1±9.5
M:F	97:16 (6.9:1)
Disease duration (years)	3.8 ± 4.9
Diagnosis before referral	102 (90.3)
Time lapse till referral (years)	3.8±4.9
Smoking	50 (44.2)
Eye involvement	
Unilateral	18 (15.9)
Bilateral	95 (84.1)
Systemic manifestations	
Recurrent oral ulcers	99 (87.6)
Genital ulcers	89 (78.8)
Cutaneous	43 (38.1)
Articular	31 (27.4)
Deep venous thrombosis	20 (17.7)
Neurological	14 (12.3)

Characteristics of the Behçets disease patients referred to the uveitis

Ocular findings during disease course mean±SD or n(%)	BD patients (n=113)
Complications	
Cataract	57 (27.4)
Cataract/RD	1 (0.5)
Cataract/Optic disc pallor	10 (4.8)
Cataract/Optic disc pallor/ERM	8 (3.8)
Cataract/Macular atrophy	4 (1.9)
Cataract/ERM	3 (1.4)
Cataract/Optic atrophy	3 (1.4)
Cataract/Glaucoma	3 (1.4)
RD	1 (0.5)
Optic disc pallor	2 (1)
Macular atrophy	11 (5.3)
Macular/Optic atrophy	1 (0.5)
ERM	7 (3.4)
Optic atrophy	2 (1)
Glaucoma	10 (4.8)
BRVO	11 (5.3)
CRVO	2 (1)
MH	3 (1.4)
Medications to control systemic disease	
Oral steroids	142 (68.3)
Pulse steroids	27 (13)
Both oral/pulse steroids	28 (13.5)
Infliximab	21 (10.1)
Adalimumab	13 (6.3)
Azathioprine	71 (34.1)
Cyclosporine	66 (31.7)
Disease control at presentation	
Controlled	34 (16.3)
Worsened	99 (47.6)
Improving	15 (7.2)
Stationary	60 (28.8)

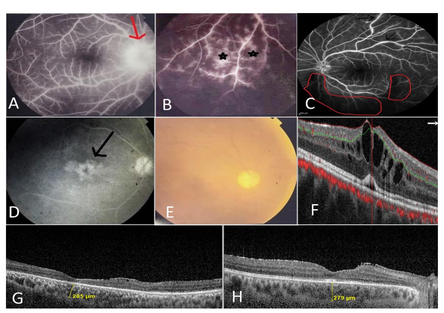
Frequency of eye complications medications received and response to treatment during the course of the eye disease in Behçets disease patients referred to the uveitis unit

Uveitis	Median VA in BD patients (n=113, 208 eyes)	p
Anterior only	0.8	<0.001
Posterior only	0.3	
Panuveitis	0.07	
Optic neuritis	0.05	

Visual acuity in Behçets disease patients referred to the uveitis unit according to the presence of anterior, posterior or panuveitis

Ocular findings at presentation mean±SD or n (%)	BD patients (n=113, 208 eyes)
Clinically	
Pigments on back of cornea	5 (2.4)
Keratitic precipitates	14 (6.7)
Intraocular pressure (mmHg)	13.9±4.7
Slit lamp	
Anterior uveitis only	25 (12)
Posterior uveitis only	47 (22.6)
Optic neuritis only	2 (0.96)
Panuveitis	134 (64.4)
Iris nodules	41 (19.7)
Posterior synechiae	38 (18.3)
Cataract	24 (11.5)
Posterior synechiae and cataract	32 (15.4)
Anterior chamber cells grading	
no cells	99 (47.6)
+0.5 cells	22 (10.6)
+1 cells	57 (27.4)
+2 cells	19 (9.1)
+3 cells	6 (2.9)
+4 cells/hypopyon	5 (2.4)
Vitreous haze grading	
0	80 (38.5)
+1	66 (31.7)
+2	36 (17.3)
+3	9 (4.3)
+4	13 (6.3)
+5	4 (1.9)
Fundus examination	
Macular edema (OCT confirmed)	28 (13.5)
Macular hole	7 (3.4)
Epiretinal membrane without edema	36 (17.3)
Epiretinal membrane with edema	13 (6.3)
Atrophic macula	31 (14.9)
Macula not assessed (dense media opacity)	22 (10.6)
Optic neuritis	29 (13.9)
Optic disc pallor	49 (23.6)
Glaucomatous cupping	8 (3.8)
Disc not assessed (due to dense opacity)	27 (13)
Retinal vasculitis	57 (27.4)
Retinitis	15 (7.2)
Retinal vasculitis and retinitis	36 (17.3)
End-stage eye disease	15 (7.2)

Eye involvement in the Behçets disease patients referred to the uveitis unit



Ocular signs and complications of Behcet's disease uveitis: **A-D** Fundus Fluorescein Angiography (FFA) images captured during active posterior uveitis, findings include: **A**. Hot disc (red arrow) denoting papillitis **B.** staining of vascular walls and leakage denotingvasculitis (black stars) **C.** areas of ischemia and capillary hypoperfusion (red circles) and staining (black arrows) **D.** Classic late petaloid pattern characteristic of cystoid macular oedema. **E.** Coloured fundus photo of an eye with end stage disease illustrating pale atrophic optic disc and attenuated vessels. **F-H** Optical Coherence Tomography (OCT) scans showing: **F.** Intraretinal cysts and subretinal fluid affecting the fovea; features of cystoid macular oedema in an eye with active Behcet's posterior uveitis. **G.** Lost foveal contour with reduced central macular thickness and loss of outer retinal layers denoting macular atrophy in an eye with end stage disease, subfoveal choroidal thickness = 285 microns. **H.** Hyper reflective epiretinal membrane causing tangential traction and distortion of the inner retinal surface, subfoveal choroidal thickness = 279 microns.

The study included 113 patients (208 eyes). 86% were males and 14% females. Their mean age was 32.1±9.5 years. Time lapse from diagnosis to referral was 3.8±4.9 years. 15.9% had unilateral eye involvement and 84.1% bilateral. The most common presentation was panuveitis in 64.4% of eyes, whereas 22.6% presented with isolated posterior uveitis and 12% with anterior uveitis. Vasculitis was a common finding at presentation in 27.4%. During the course of ocular disease the most frequent complication was cataract in 27.4% and 33% of patients did not develop complications. At presentation, 47.6% of eyes were worsening despite treatment, 28.8% were stationary, 16.3% were controlled and 7.2% were improving. The mean best corrected visual acuity dropped from 0.48±2.36 to 0.29±0.32 between presentation and last follow up. Visual acuity was significantly reduced at last follow up in those presenting with panuveitis and optic neuritis (p<0.001). End-stage eye disease was present in 7.2% at presentation.

Conclusion

Ocular Behcet's uveitis is responsible for a big proportion of non infectious uveitis in Egypt. Delayed referral to tertiary care eye unit remains a loop hole in the health care system. However, increased use of immunosuppressants including biologics are promising in halting the progression of the ocular disease and reducing the occurrence of complications.

Exploring Retinopathy of Prematurity on Instagram: A Content Analysis of Hashtags

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INTRODUCTION

- Retinopathy of Prematurity (ROP) is a leading cause of vision loss in premature infants.
- Social media platforms like Instagram offer a medium for sharing medical information.
- This study aims to analyze information about retinopathy of prematurity on Instagram, focusing on the characteristics of top-performing posts and evaluating their effectiveness as educational content.

METHODS

- Instagram was searched for ROP-related hashtags.
- The “Top 15 posts” per hashtags were collected.
- Hashtags analyzed:
  - #retinopathyofprematurity
  - #ROP
- Statistical Analysis:
  - Descriptive statistics and Mann-Whitney U test (α=.05)

FINDINGS

- Total Posts Identified: 11,184

Top Hashtags:
- #retinopathyofprematurity (n=5,492)
- #ROP (n=5,692)

- Content Breakdown:
- 61% posted by ophthalmologists.

- - 80.5% were pictures; 75.6% were educational.

- Educational videos performed better in terms of likes and engagement ($P<0.05$).

CONCLUSIONS

- Instagram is a useful platform for raising awareness about ROP.
- Ophthalmologists and mothers are the primary content creators.
- Educational posts, especially videos, are more engaging and effective.

- ***<u>References:</u>***

- Nguyen AAK, Tsui E, Smith JR. Social media and ophthalmology: A review. Clin Exp Ophthalmol. 2022 May;50(4):449-458.
- Huang AS, Abdullah AAN, Chen K, Zhu D. Ophthalmology and social media: an in-depth investigation of ophthalmologic content on instagram. Clin Ophthalmol. 2022 Mar 8;16:685-694.
- Clarke C, Smith E, Khan M, Al-Mohtaseb Z. Social media and ophthalmology: perspectives of patients and ophthalmologist. J Med Syst. 2018;42(12):258.

Considerations in Immediate Bilateral Sequential Retinal Detachment Surgery

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Introduction

- Bilateral simultaneous retinal detachments are relatively rare, having been reported to be present in 1.5-2.3% of RD registry studies.
- Management of simultaneous RDs must take into account the nature of the RD, patient factors, and service factors such as access to an operating theatre.
- Immediate sequential surgery is rare but can be indicated in select cases.

Methods

- Retrospective case series of patients who underwent immediate sequential RD surgery, in a large tertiary referral centre in the UK
- Data pertaining to clinical presentation of each case was collected (Visual Acuity presented in LogMAR) as well as widefield images.
- The decision to perform immediate sequential surgery is discussed in each case.

Case Series

CASE 1 – 23yo female

PC: gradual blurring of vision for 12 months. No flashes or floaters. No trauma
POH: CL user (-8D myopia)

Treatment: Immediate bilateral sequential scleral buckles under GA. No posture.
Rationale: Due to macular status and availability of anaesthetist, decision made to repair both eyes with immediate sequential surgery
Outcome: LE buckle required revision due to unsupported hole inferiorly, but retina fully attached following this.

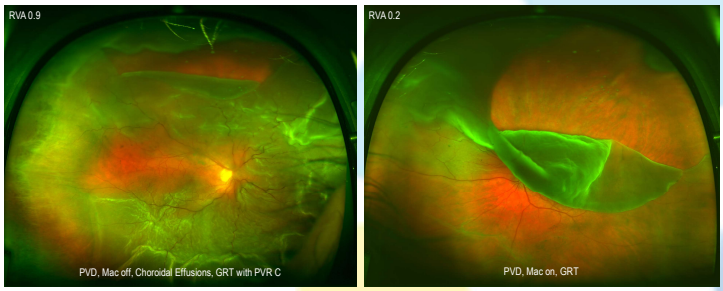
CASE 2 – 28yo female, background of eczema, pregnant (27/40) at presentation

PC: 3 days of reduced vision in LE. RE asymptomatic.
POH: Bilateral pseudophakia, previous LE PPV Laser Gas for Mac On RD 3y ago

Treatment: RE PPV/360 Laser/SF_6 followed by immediate LE PPV/360 Laser/ Retinotomy/1k Oil under GA. Face down for 24h then upright for 5 days and nights.
Rationale: Due to macula on status of RE, patient pregnancy status, minimising further GA, and availability of obstetric anaesthetist
Outcome: RE required two further vitrectomies (after 4 months and then a further 2 month later due to new U-tear within 360 laser. First revision PPV/360 Laser/C_2F_6 under GA; second revision PPV/360 laser/SF6 under GA. LE Oil remains in situ.

CASE 3 – 56yo male

PC: RE 3 weeks reduced vision, LE 1 week shadow
POH: FH Glaucoma



Treatment: RE PPV/PVR Peel/360 Laser/1k Oil then immediate LE PPV/360 Laser/C_2F_6 under GA. Posture face down 24h then upright 5 days and nights.
Rationale: Due to macular status and availability of anaesthetist, decision made to repair both eyes with immediate sequential surgery
Outcome: RE redetached due to PVR and Oil underfill, required retinectomy and further Silicon Oil. Retina attached after oil removal with final RVA after ROSO 0.4.

CASE 4 – 52yo male

PC: LE floaters for 1 week, and shadow in vision for 4 days. RE Asymptomatic.
POH: LASIK 20y ago

Treatment: RE PPV/Laser/SF_6 then immediate LE PPV/Laser/C_2F_6 under LA. Face down 3 days and nights then alternate cheek to pillow for 7 nights.
Rationale: Patient choice (with full understanding of gas bubbles and posturing.
Outcome: Both retinas fully attached, patient discharged at 3 months (LVA 0.28).

Discussion

- Apart from the established considerations in immediate sequential ocular surgery, several additional factors must be considered when planning for immediate sequential RD surgery.
  - The detachments: macular status, lens status, PVD vs No PVD, chronicity/PVR, choice of tamponade and posturing. Individualised patient counselling regarding the post-operatiive recovery period is essential.
  - The patient: medical history, level of anxiety and suitability for general anaesthetic.
  - The service: access to theatre and availability of anaesthetist in an acute setting.
- Different treatment modalities exist which can help reduce the operative burden on the patient (e.g. barrier laser, pneumatic retinopexy, vitrectomy, buckle).

Conclusion

Additional factors must be considered when planning for immediate sequential RD surgery. RDs vary greatly in their presentations, but with careful patient selection and individualised counselling, this approach can be performed safely. Without complications, immediate sequential surgery may afford faster visual rehabilitation.

References

1. Krohn J, Seland JH. Simultaneous, bilateral rhegmatogenous retinal detachment. Acta Ophthalmol Scand. 2000 Jun;78(3):354-8. doi: 10.1034/j.1600-0420.2000.078003354.x. PMID: 10893072.
2. El Matri L, Mghaieth F, Chaker N, Kamoun M, Charfi O, Chaabouni A. Les décollements de rétine rhegmatogènes bilatéraux simultanés. A propos de 7 observations [Simultaneous bilateral rhegmatogenous retinal detachment. 7 case studies]. J Fr Ophtalmol. 2004 Jan;27(1):15-8. French. doi: 10.1016/s0181-5512(04)96086-x. PMID: 14968072.
3. Finn AP, Eliott D, Kim LA, Husain D, Wu DM, Young LH, Kim IK, Andreoli C, Skondra D, Vavvas DG, Miller JB. Characteristics and Outcomes of Simultaneous Bilateral Rhegmatogenous Retinal Detachments. Ophthalmic Surg Lasers Imaging Retina. 2016 Sep 1;47(9):840-5. doi: 10.3928/23258160-20160901-07. PMID: 27631480.

"From Floaters to Lymphoma: A Case of Primary Vitreoretinal Lymphoma in the Elderly"

Authors: Gdeh, Abdelbari[1]; Goswami, Mallika[2]

Background:

Vitreoretinal lymphoma (VRL), a rare subtype of primary central nervous system lymphoma (PCNSL), primarily affects the retina and vitreous. It often mimics chronic uveitis, complicating diagnosis. VRL is aggressive, with 80-90% of patients developing CNS involvement within a year. Confirming the diagnosis typically requires a vitreous biopsy, and treatment strategies remain unstandardized, especially for cases without CNS involvement.

Case Report:

An 86-year-old female presented with floaters and progressive vision loss. Initially diagnosed with posterior vitreous detachment (PVD), her vision worsened despite treatment. Imaging and OCT suggested ocular lymphoma, confirmed by vitreous biopsy showing B-cell non-Hodgkin lymphoma. Radiotherapy was chosen after a multidisciplinary discussion.

Figure 1: Right eye fundus

Figure 2: Left eye fundus

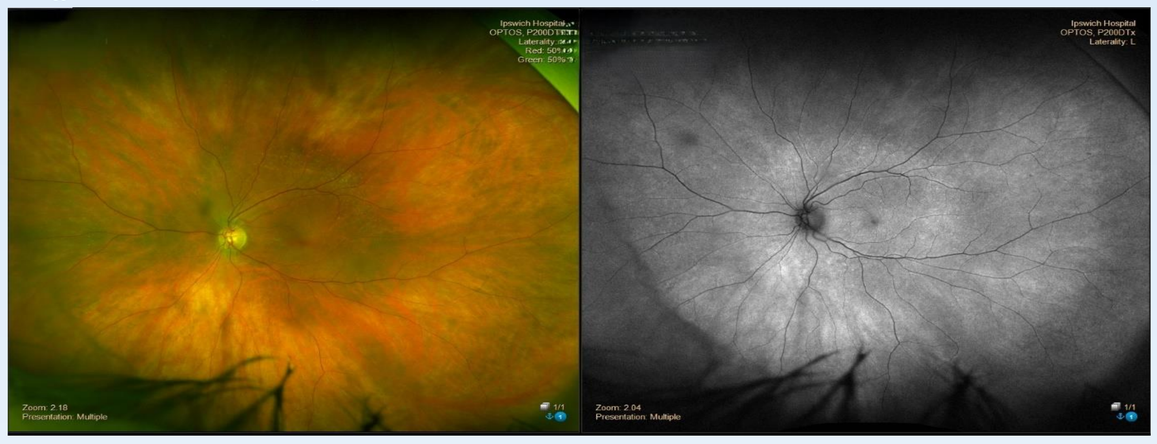


Figure 3: OCT findings of right eye

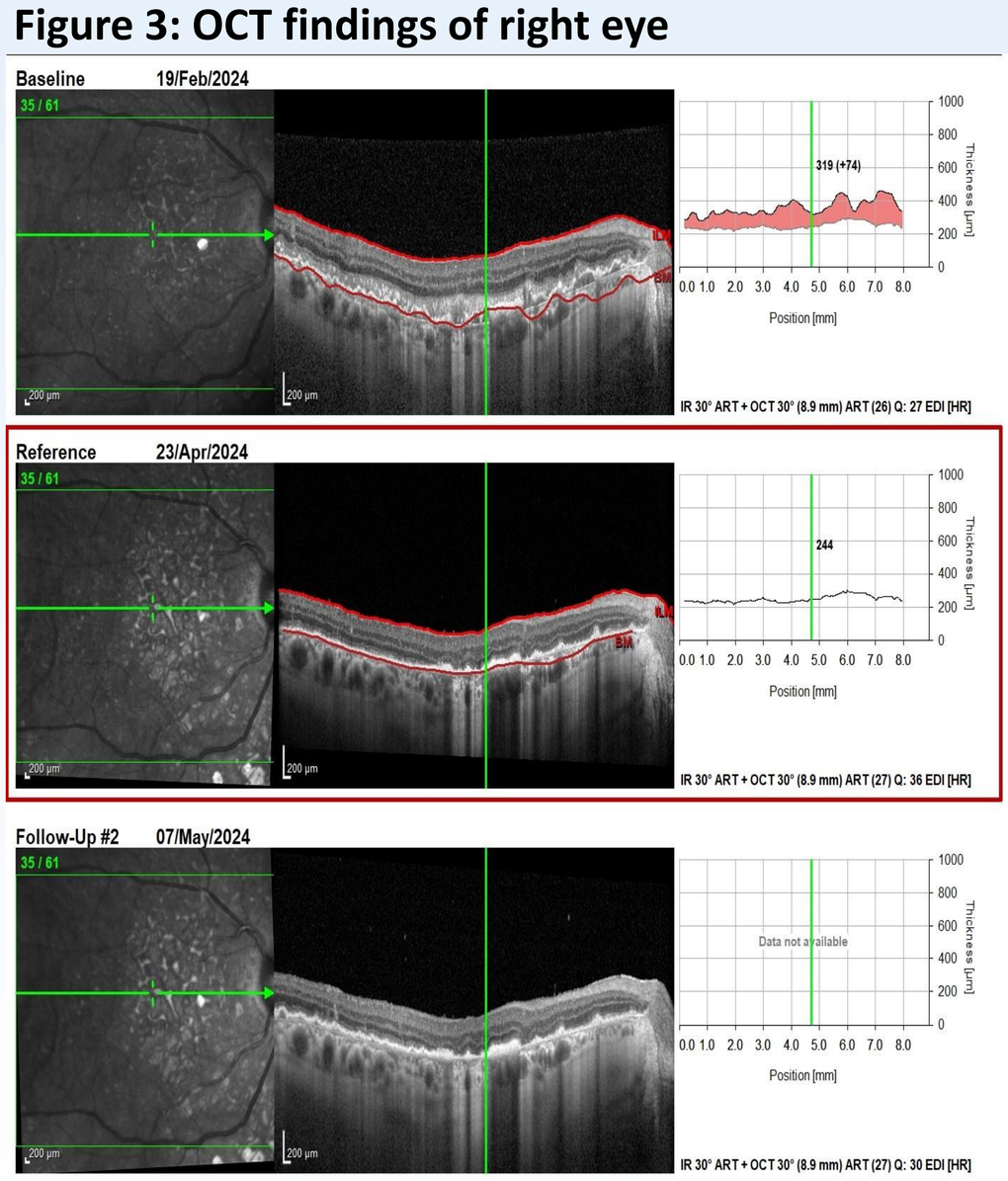
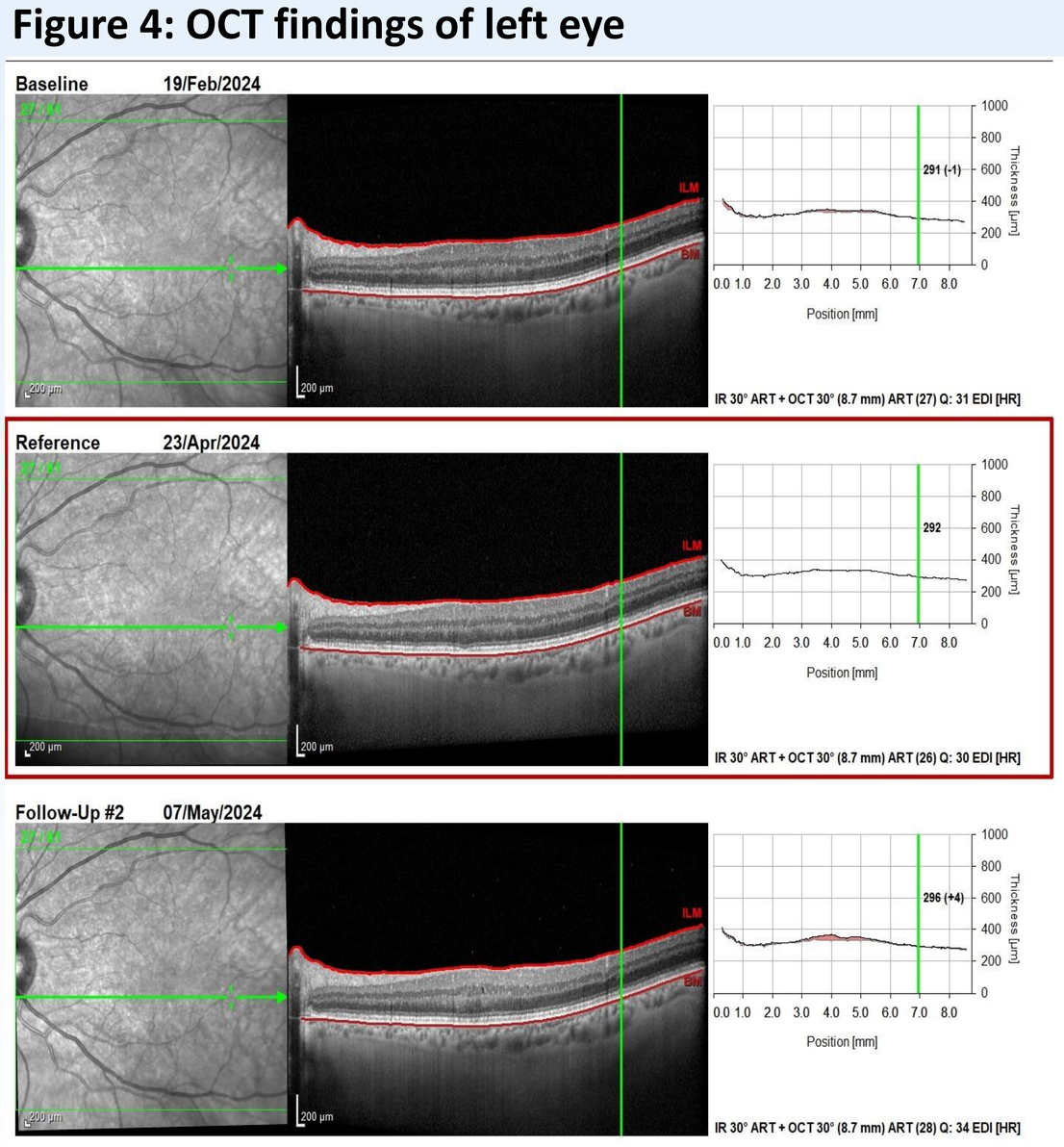


Figure 4: OCT findings of left eye



Conclusion:

Primary vitreoretinal lymphoma is a rare yet critical diagnosis, often misidentified as posterior uveitis. Accurate diagnosis requires clinical, imaging, and histopathological assessments, with multidisciplinary care essential for optimal treatment, especially in elderly patients.

References:
1. Bianka Sobolewska, Soon-Phaik Chee. Viteoretinal Lymphoma: Nathalie Cassoux, Academic Editor and Ryuya Yamanaka, Academic Editor. Cancers (Basel) 2021; 13(16): 3921. Vitreoretinal Lymphoma - PMC (nih.gov)
2. Yujuan Wang, Dik S. Cheung, Chi-Chao Chan. Case 01-2017- Primary vitreoretinal lymphoma (PVRL): report of a case and update of literature from 1942 to 2016: Ann Eye Sci 2017; 10.21037/aes.2017.06.06. Case 01-2017 — Primary vitreoretinal lymphoma (PVRL): report of a case and update of literature from 1942 to 2016 - PMC (nih.gov)

European VitreoRetinal Society

NHS East Suffolk and North Essex NHS Foundation Trust

Solving a Challenging Etiological Dilemma in Severe Panuveitis

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Introduction

- Behçet's disease is a rare inflammatory disorder that affects the mucocutaneous, ocular, and vascular systems. Its cause is unclear but linked to genetic and immune factors, with a strong association to the HLA-B51 allele.
- The most severe ocular involvement is represented by panuveitis.

Case Presentation

Early July

- A 17-year-old male presented with one-week history of a red, painful left eye (OS) and significant vision loss (**VA = 2.5/10**). He reports previous uveitis in the right eye and recurrent bipolar aphthosis.
- Ophthalmological examination (OE): significant conjunctival hyperaemia with perikeratic ring, **Tyndall effect grade 4+**, **360° posterior synechiae**, papillitis.
- Treatment: Atropine 1%, tropicamide and subconjunctival corticosteroid (SCS) injections.
- Uveitis Laboratory Workup, with an emphasis on infectious etiologies and HLA typing assays.

Early July

- OE: VA OS improved to 5/10 after SCS
  - Conjunctival hyperemia, Tyndall 3+, sterile hypopyon, **360° posterior synechiae** (Fig. 1), hyalitis, papillitis.
- Treatment: Atropine 1%, tropicamide and SCS injections.

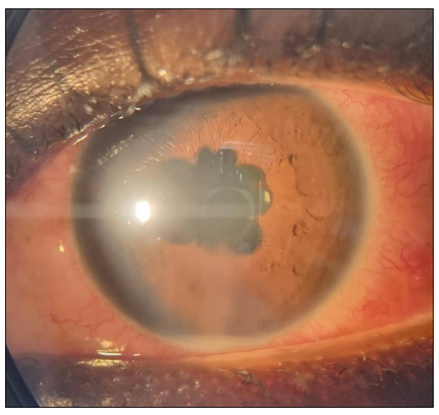

Fig. 1 – Slit lamp examination

Early July

- OE: VA OS: improved to 10/10 following treatment
  - Tyndall 2+, **absent hypopyon**, round pupil with **two remaining synechiae at the 6 o'clock** (Fig. 2), hyalitis.
- Fluorescein Angiography: **non-occlusive retinal vasculitis**, mild papillitis (Fig. 3)
- Treatment: SCS injections were discontinued and dexamethasone with mydriatic agents were continued.

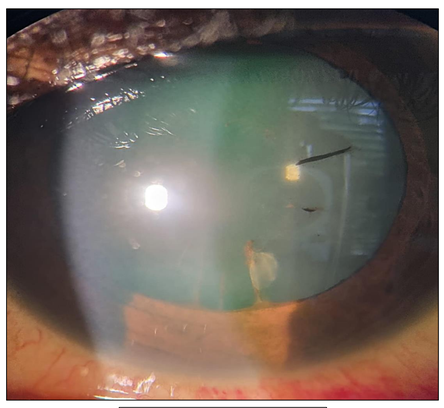

Fig. 2 – Slit lamp examination

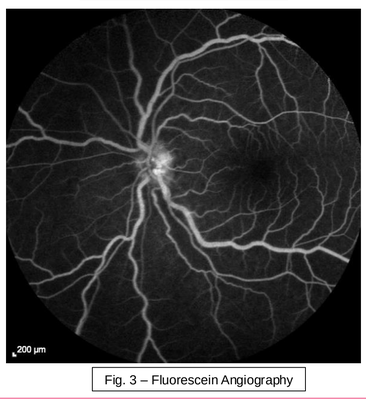

Fig. 3 – Fluorescein Angiography

Early August

- Laboratory test results: **very high IgG for Toxoplasma gondii (2700 IU/ ml)** and **HLA-B51 negative;** other infections were absent.
- OE: VA OS reduced to **1/10**
  - Absent Tyndall effect, round pupil with broken posterior synechiae, vitreous haze and **no focal retinitis** or **pigmented retinochoroidal scar** were visualized on fundoscopy.
  - OCT revealed severe **macular edema** (Fig. 4)
- The patient was scheduled for anterior chamber paracentesis (PCR test for Toxoplasma gondii).

Early August

- Anterior chamber paracentesis was performed.

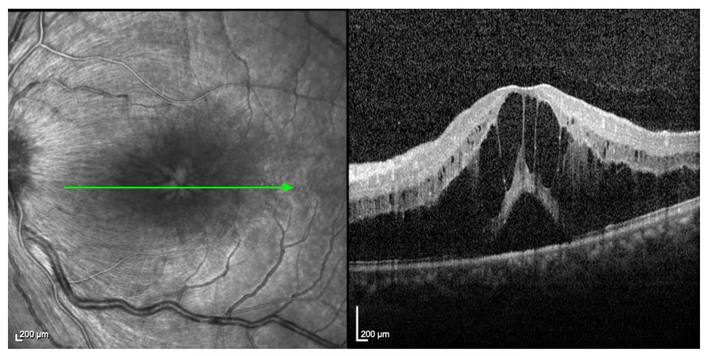

Fig. 4 – Optical Coherence Tomography (OCT)

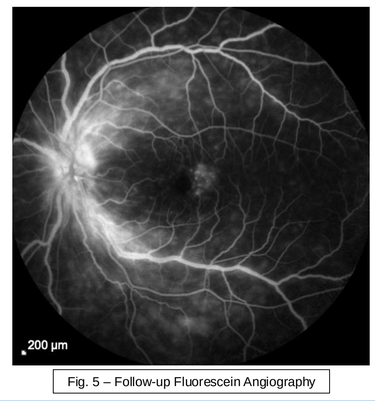

Fig. 5 – Follow-up Fluorescein Angiography

Early August

- PCR test came back negative for Toxoplasma gondii ⇒ **Severe panuveitis secondary to Behçet's disease** being the final diagnosis.
- OE: VA OS 1/10
  - Tyndall 1+, follow-up angiography showed proximal vasculitis papillitis (Fig. 5), severe macular edema.
- Treatment: **high-dose IV corticosteroids** followed by oral tapering, **Azathioprine** and **Infliximab** for managing the systemic inflammation
- Follow-up plan: Continued joint follow-up with both internal medicine and ophthalmology.

Conclusion

- This case emphasizes the necessity of thorough diagnostic evaluation in panuveitis, particularly to distinguish between infectious and autoimmune causes.
- Excluding toxoplasmosis was crucial in guiding appropriate immunosuppressive therapy, as it could have aggravated its clinical course.
- Effective management required multidisciplinary coordination and careful differential diagnosis, preventing complications from inappropriate treatment.

References

- Yanoff, Myron, and Jay S. Duker, eds. Ophthalmology. Fifth edition. Edinburgh London New York Oxford Philadelphia St. Louis Sydney: Elsevier, 2019.
- Ksiaa, I., N. Abroug, M. Kechida, S. Zina, B. Jelliti, S. Khochtali, S. Attia, and M. Khairallah. "Eye and Behçet's Disease." Journal Français d'Ophtalmologie 42, no. 4 (April 2019): e133–46. https://doi.org/10.1016/j.jfo.2019.02.002.
- Zając, Hanna, and Anna Turno-Kręcicka. "Ocular Manifestations of Behçet's Disease: An Update on Diagnostic Challenges and Disease Management." Journal of Clinical Medicine 10, no. 21 (November 5, 2021): 5174. https://doi.org/10.3390/jcm10215174.

PDF

A SERIES OF UNFORTUNATE RETINAL EVENTS: A CASE OF POST-OPERATIVE TRAUMA

CAGAMPANG III, PERFECTO ELPIDIO OCTAVIO ROY AND MARIN, JESUS

INTRODUCTION

Ocular trauma requires prompt initial assessment as well as early diagnosis for proper and immediate treatment. In a case of post-retinal surgery with an ocular trauma happening within two weeks, a crucial period of recovery, a different approach can be the best option.

It is biphasic incidence, young and old, with the young due to motor accidents and occupational related. Most are also open globe trauma. Cases under 15 years of age also have more severe eye injuries.

A Singapore study revealed that monocular blindness is caused by penetrating eye injury with the annual incidence of 13 severe ocular trauma case per 100,000; men > Women; young and elderly.

Severe cases of ocular trauma: ruptured globes, intraocular foreign bodies, ocular penetration injuries.6

CASE REPORT

A 48 year old female diagnosed with a failed pneumatic retinopexy, left eye one month after gas injection. A retinal detachment opposite the site of the previously lasered retinal horse-shoe tear, temporal, 2 o'oclock position.

Closed-vitrectomy, additional laser marks on the inferior hemisphere. An encircling band of 360 degrees was also done silicon oil injection. Two weeks after, the operated left eye was hit by a finger of a ten year old child. Six months after, removal of silicon oil with peeling of the membranes were done and additional laser marks where placed. Late complications on the retina showed proliferative membranes. Dissection and delimitation were done which revealed underneath a swiss-cheese retina.

One month after silicon oil removal and concomitant repair of the retina post-trauma, the left eye showed hypotony. Two months after, patient had 4th surgery for removal of membranes and retinectomy to spare the macula with addition of silicon oil and focal laser treatment. One month after, vision was close to counting fingers for 1-2 feet with the added benefit the tone of the eye improving. The eye pressure improved from 5 to 14 mmHg.

Final diagnosis: Retinal Detachment, closed-vitrectomy, silicon oil, encircling band; retinal re-attachment, OS.

DISCUSSION

Ocular trauma two weeks after a retinal detachment surgery is not only a rare

occurrence but also not a frequent event. In recently and newly operated cases of retinal detachment with silicon oil, observation might be a better option to allow the inflammation to subside and allow the silicon oil to provide a barrier for the hemorrhages noted on the retina to subside.

Treatment with steroids, topical, oral and sub-Tenon's will lessen the inflammatory process.

One major concern in eyes with severe trauma is the development of hypotony post-repair. The cause of hypotony is the pathogenetic evolution of anterior proliferative vitreoretinopathy occurs in three consecutive stages: (1) traction on the ciliary body and peripheral retina induced by fibrocellular contraction of the vitreous base; (2) incorporation of tractionally denuded components of the ciliary body and peripheral retina into the fibrocellular membranes overlying the vitreous base; and (3) proliferation of the incorporated components and fibrovascular ingrowth from the uvea, the retina, or both, into the fibrocellular membranes. Tractional disruption of the epithelium of the ciliary body pars plicata and breakdown of the ciliary blood-aqueous barrier are the principal pathogenetic mechanisms of chronic intractable hypotony and the post-vitrectomy fibrin syndrome in anterior proliferative vitreoretinopathy."4

In eyes with repeated surgeries, like the case that we have, complications encountered includes massive proliferative vitreo-retinopathy, hypotony, possibility of phthisis bulbs and possibility of sympathetic ophthalmia. The most devastating complication, sympathetic ophthalmia shows that there is no race or geographic predilection. It is common ins men in terms of trauma but equal when it is surgically initiated, symphathetic ophthalmia occurs in 0.2 % of cases after penetrating injury and 0.01 % after intraocular injury. The onset of SO can be 12 week post injury to the exciting eye. Studies have noted that it occurs as early as 9 days to as late as 50 years, even 66 years in one study.

CONCLUSION

- Ocular Trauma is not a rare but an infrequent event.
- Severity of trauma leads to severe proliferative vireo-retinal complications.
- Eyes which undergone retinal surgery: closed vitrectomy, endolaser, silicon band/buckle and silicon oil, experiencing ocular trauma within a two week period requires a different approach.
- Retinotomy is needed for cases with severe proliferative vitreo-retinal membranes.
- Stripping of the anterior proliferative vireo-retinal membranes on the iris and beneath the iris is essential.
- Complications of hypotony and sympathetic ophthalmia is a possibility like in the case presented.

REFERENCES

Eye Injuries: Understanding Ocular Trauma. Heath, Jeffrey; Dobes, Jacqueline; Chen, Fred.

Retinectomy vs vitrectomy combined with scleral buckling in repair of posterior segment open-globe injuries with retinal incarceration. Y Were et al.
Inferior retinotomy and silicone oil tamponade for recurrent inferior retinal detachment and grade C PVR in eyes previously treated with pars plana vitrectomy or scleral buckle.
Raffaelle Mancino, Francesco Aiello, Elena Ciuffoletti etal.
Pathogenic mechanisms in anterior proliferative vireo-retinopathy. PF Lopez, H.E. Grossniklaus, TM Aaberg etal.
Study on maintenance of eyeball morphology by foldable capsular vitreous body in severe ocular trauma. Shane Li, Xiaoxuan Wang, Zhixia Dou etal. BMC Ophthalmology. Vol. 23. 463(2023).
Globe Ruptures: Outcomes and Prognostic Analysis of Severe Ocular Trauma. Coelho, Joao; Ferreira,Andre; Khun, Ferenc; Meireles, Angelina. February 2022. Ophthalmologica.
Preoperative Factors Associated with Improvement in Visual Acuity after Globe Rupture Treatment. Nishide, Tadayuki; Hayakawa, Natsuki; Nkanishi, Misako; Ishii, Mai, et al. March 2013 European Journal of Ophthalmology.
Seeing Clearly: Oil in the Eye Post-Retinal Surgery Eye Surgery Guide. Brian Lett.
The Risk of Sympathetic Ophthalmia after Vitreoretinal Surgery. Evgenia Anikina, MA, FRCOphth1,2,3 · Siegfried K. Wagner, MA, FRCOphth1,2,3 · Sidath Liyanage, PhD, FRCOphth1,2,3 · Paul Sullivan, MD, FRCOphth1 · Carlos Pavesio, MD, FRCOphth2,3,4 · Narciss Okhravi, FRCOphth, PhD2,3,4 OPHTHALMOLOGY RETINA AAO. VOL. 6. ISSUE 5, P347-360, MAY 2022.
Incidence of Sympathetic Ophthalmia after Intraocular Surgery: A Systematic Review and Meta-analysis. AAO 2024 Mohamed S. Bondok BASc 1 ∗ ,Bonnie He MD 2 ∗, Brendan Ka-Lok Tao 3, Mostafa Bondok 3, Ahsen Hussain MD 2, Edsel Ing MD, PhD 4 5
Clinical Ophthalmology: An Asian Perspective
Posterior Segment Intraocular Inflammation guidelines. Forrester, John et al. 1998. p 106
Symphathetic Ophthalmia: Where do we currently stand on treatment strategies? Paulbuddhe, Vivek et al. Clinical Ophthalmology 2021:15 4201-4218.