RCOphth Annual Congress
The ROYAL COLLEGE of OPHTHALMOLOGISTS
19 - 22 May 2025, ACC, Liverpool

Evaluating Ocular Oncology Referrals from the Primary Care Service (A Service Evaluation Project)

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Introduction

*Opticians urgently send any probable uveal melanomas or atypical nevi to their local eye service initially.
*The eye department in Sheffield Teaching Hospitals (STH) already has an ocular oncology service which deals with all such referrals (from both categories).
*Some of these referrals are unnecessary and can be managed by the primary community eye service.
*Decreasing the number of such referrals will help save time for evaluating and managing more complex referrals.

Table 1: The MOLES acronym and scoring system [1]

Risk Factor	Severity	Score
Mushroom shape	Absent	0
	Unsure/Early growth through RPE	1
	Present, with overhang	2
Orange pigment	Absent	0
	Unsure/Trace (i.e., dusting)	1
	Confluent clumps	2
Large Size*	Thickness < 1.0 mm ('flat/minimal thickening') *and* diameter < 3 DD	0
	Thickness = 1.0 – 2.0 mm ('subtle dome') and/or diameter = 3-4 DD	1
	Thickness >2.0 mm ('significant thickening') and/or diameter >4 DD	2
Enlargement***	None (or no previous ophthalmoscopy)	0
	Unsure (poor image quality or 'new lesion' but no previous photo)	1
	Definite** or assumed, if thickness > 3.0 mm or diameter >5DD	2
Subretinal fluid	Absent	0
	Trace (if minimal and detected only with OCT)	1
	Definite (if seen without OCT or extending beyond tumour margins)	2
	Total Score:	

Score	Category	Suggested management
0	'Common naevus'	Monitoring by optometrist in community
1	'Low-risk naevus'	Monitoring by optometrist or ophthalmologist
2	'High-risk naevus'	Monitoring by ophthalmologist
3	'Probable melanoma'	Urgent referral to ocular oncologist

DD = disc diameter (=1.5 mm)
*Ignore thickness if this cannot be measured
**Confirmed with sequential photography
***Assume growth has occurred if tumour diameter>5DD and/or thickness>3.0 mm and score enlargement = 1.

Table 2: The College of Optometrists Management Categories [2]

Category	Diagnosis	Features	Management Recommendation
A3	Probable Melanoma	A) Any one of the following: - *thickness greater than 2.0mm (or LBD greater than 7mm). *Collar-stud configuration. *Documented growth. B) Any two of the following: - *thickness greater than 1.5mm (or LBD greater than 6mm). *Orange pigment *Serous retinal detachment. *Symptoms.	Urgent referral to an ophthalmologist
B1	Low or high-risk nevus	Greater than 6mm LBD and dome-shaped, with or without drusen and/or traces of subretinal fluid; orange pigment absent (atypical naevus).	Routine referral to an ophthalmologist followed by regular surveillance, which may be shared with the ophthalmologist in accordance with local protocols.
B3	Typical (common) nevus	*None of the 'high-risk' features mentioned above. *MOLES total score=0. *Applies even if lesion not previously documented.	Inform the patient, but no need for regular surveillance (review at subsequent routine eye examinations)
	CHRPE	*Adenomas and adenocarcinomas associated with CHRPE are exceedingly rare. *There is a rare but important association with Familial Adenomatous Polyposis (FAP), an inherited cancer predisposition syndrome, especially when the signs occur in multiple quadrants or are bilateral.	

Methods

Specific aim

To improve the primary referral process to Ocular Oncology Service and make it more efficient, thereby decreasing the number of unnecessary referrals.

Specific objectives

- Assessing the optician's referrals related to ocular oncology sent to the Eye Department at (STH).
- Assessing the outcome of the virtual assessment of such referrals to see how many of these referrals really needed to be made.
- To determine if more referrals are being sent from a certain optician or optometry practice, which can be targeted for more education and guidance.

Methodology

- We screened all referrals from opticians sent to the Ocular Oncology Service at (STH) between December 2022 and December 2023.
- Inclusion criteria: referrals from opticians between December 2022 and December 2023 to the ocular oncology service regarding suspicious retinal/choroidal lesions.
- Exclusion criteria:
  - *Referrals from non-opticians
  - *Referrals about non-retinal/choroidal lesions.
  - *Cases referred but not assessed by the oncology service because of, e.g. non-attendance,....
- Referrals and associated images were assessed. Ocular oncology assessments of such referrals, images, and outcomes were also evaluated.
- An Excel sheet was used to collect and analyse the data.

Results

157 Referrals

46 excluded

111 met the inclusion criteria

103 assessed virtually and 8 assessed in clinic

87 discharged and 24 followed up

49 (44%) choroidal nevi (figure 1)

4 (3.6%) choroidal melanomas (2 previously treated)

22 (20%) CHRPEs(figure 2)

29 (26%) with a variety of other diagnoses (hemangioma, metastasis, scleral nodule, lattice, dark without pressure, PED, vortex vein varix-figure 3-, coloboma, RPE thinning)

7 (6%) with no fundus pathologies can be identified

- Images attached to the referral:
  *27 had fundus images
  *2 had OCT images
  *10 had both fundus and OCT images
  *74 (67%) had no images.
- 29 eyes were referred appropriately that follow either MOLES score (Table 1) or the College of Optometrists guidance. 81 (73%) referrals followed neither guidance.

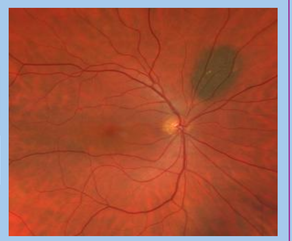


Figure 1:- Choroidal Nevus

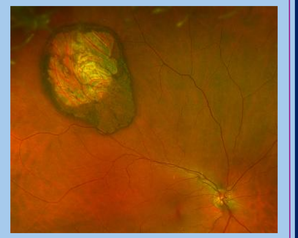


Figure 2:- CHRPE

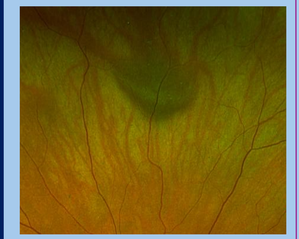


Figure 3:- Vortex Vein Varix

Discussion

Identified Issues

- Inaccurate description of retinal lesions
- Deficient referrals with incomplete history and examination, and no associated images
- Referrals that describe images rather than examination findings
- Not following referral guidelines.

Suggested Actions For Improvement

- Referrals need to be based on clinical findings, not only on imaging.
- Description of lesions needs to be full and accurate.
- More awareness of the officially agreed-upon referral guidelines.
- Differentiating orange pigments from drusen, and CHRPEs from nevi is a valuable skill to acquire.
- Considering a digital system to directly transfer images from the optician's practice to the ocular oncology referral hub.
- Encouraging efficient referrals by praising opticians and practices with satisfactory referrals.
- Encouraging opticians to take photos of fundus findings as a baseline and as a teaching tool.
- Arranging teaching sessions for opticians about the correct description of retinal lesions and agreed referral pathways.
- Arranging meetings with the local ophthalmic committee to discuss the results of this project and implementing needed changes.
- Arranging CPD sessions for the optometrists to improve understanding of the referral process to the ocular oncology service.

Conclusion

The primary opticians' assessment of retinal pigmented lesions has the potential to be improved to make the referral process more efficient and decrease the burden on an already stretched tertiary Ocular Oncology Service.

References

1. Referral pathways for ocular tumors-Ophthalmic services Guidance, The Royal College of Ophthalmologists- February 2025.
2. Pigmented Fundus Lesion, Clinical Management Guidelines, The College of Optometrists(2023).Available at: https://www.college-optometrists.org/clinical-guidance/clinical-management-guidelines/pigmentedfunduslesions