AN IMAGE-BASED EYELID LESION MANAGEMENT SERVICE - EVALUATION OF A PILOT

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INTRODUCTION

- Oculoplastics is a predominantly visual specialty
- Many pathologies can be diagnosed based on external appearance.
- An image-based eyelid lesion management service was piloted to reduce the number of patients who would require outpatient clinic review.

AIMS

- The aim of this study was to determine the accuracy and feasibility of this clinic format, both as a hospital-based and community optometrist-based service.
- If successful, the service was envisaged to significantly reduce the number of patients that require face-to-face (F2F) review, in accordance with current post-COVID-19 principles of social distancing.

METHODS

- Patients with lid lesions attending an oculoplastics clinic were assessed by consultant oculoplastic surgeons in a F2F consultation (Arm A).
- The lesions were photographed by a professional medical photographer (Arm B) and by an optometrist with a handheld digital camera (Arm C).
- These images were reviewed by independent consultants masked to the outcome of the F2F clinical encounter.
- Data was collected prospectively including patient demographics, diagnosis, suspicion of malignancy, and management.
- The image-based clinic results were compared to the face-to-face clinic results.

FIGURE 1: Patient pathway

Arm A	Arm B	Arm C
Reviewed in face-to-face clinic by Consultant Oculoplastic Surgeon.	Reviewed by Clinical Photographer: Brief history and clinical photograph taken.	Reviewed by Hospital Optometrist: Brief history and clinical photograph taken.
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Clinical diagnosis and management plan formulated. If indicated, minor procedure performed.	Clinical information and photograph reviewed by independent consultant ophthalmologist, management plan formulated.	Clinical information and photograph reviewed by second independent consultant ophthalmologist, management plan formulated.

RESULTS

- 95 patients were included.
- Clinical diagnoses were compared for intra-observer variability and substantial agreement was demonstrated between gold-standard F2F clinic visit (Arm A) and arm B (K =0.708) and C (K = 0.776).
- There was no statistically significant difference in rate of discharge and all cases of malignancy were either identified or flagged for F2F review in the image-based arms.

Clinical outcome (N=95)	Arm A (F2F) N (%)	Arm B (Medical Photographer) N (%)	Arm C (Optometrist) N (%)
Discharge	38 (40%)	49 (51.6%)	27 (28.4%)
Minor ops	47 (49.5%)	30 (32%)	43 (45%)
Main theatre	8 (8.4%)	0	0
Monitor	2 (2.1%)	0	11 (12%)
Outpatient clinic	NA	18 (18.9%)	14 (14.7%)

Table 1: Outcomes for patients attending eyelid lesion management service

DISCUSSION

- Image-based clinics have been studied in other specialties and deemed appropriate for remote consultation.
- An image-based eyelid lesion management service is an accurate and safe method of virtually assessing lid lesions.
- These images can be taken by clinical photographers or provided by community optometry on referral, reducing the need for unnecessary clinic visits and maximizing utilization of consultant led oculoplastic clinics.
- This pilot demonstrated substantial diagnostic agreement of image-based diagnoses with F2F consultation and image review alone did not miss any cases of malignancy.

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