

Introduction

Since the advent of COVID-19, assessment of lesions has become difficult to facilitate in large numbers.

Teledermoscopy has been used for remote lesion assessment. However, the majority is facilitated via healthcare professionals, e.g., in primary care rather than the patient themselves. (1)

Patients referred with lesions deemed to be *low-risk* are now often initially assessed in our clinic via phone consultation in conjunction with photographs of the lesion. The majority are subsequently called for dermoscopy.

However, many of those referred have benign lesions and could be safely discharged if dermoscopy images of the lesion were available.

Materials and methods

Low-cost mobile dermoscopy attachments have been marketed to patients for self-monitoring. We compared a smartphone-compatible dermoscopy device (Dermlite HUD®, cost \$99.95 or €82.74) with traditional dermoscopic photography to assess the feasibility of using this device to photograph skin lesions.

This device has equivalent magnification (10x) compared with dermatoscopes, a smaller field of view (which still in all lesions allowed complete visualisation) and employs polarised light.

Dermoscopic photography using the Dermlite HUD® was taken of 35 consecutive lesions by dermatology registrars in the dermatology department.

Results

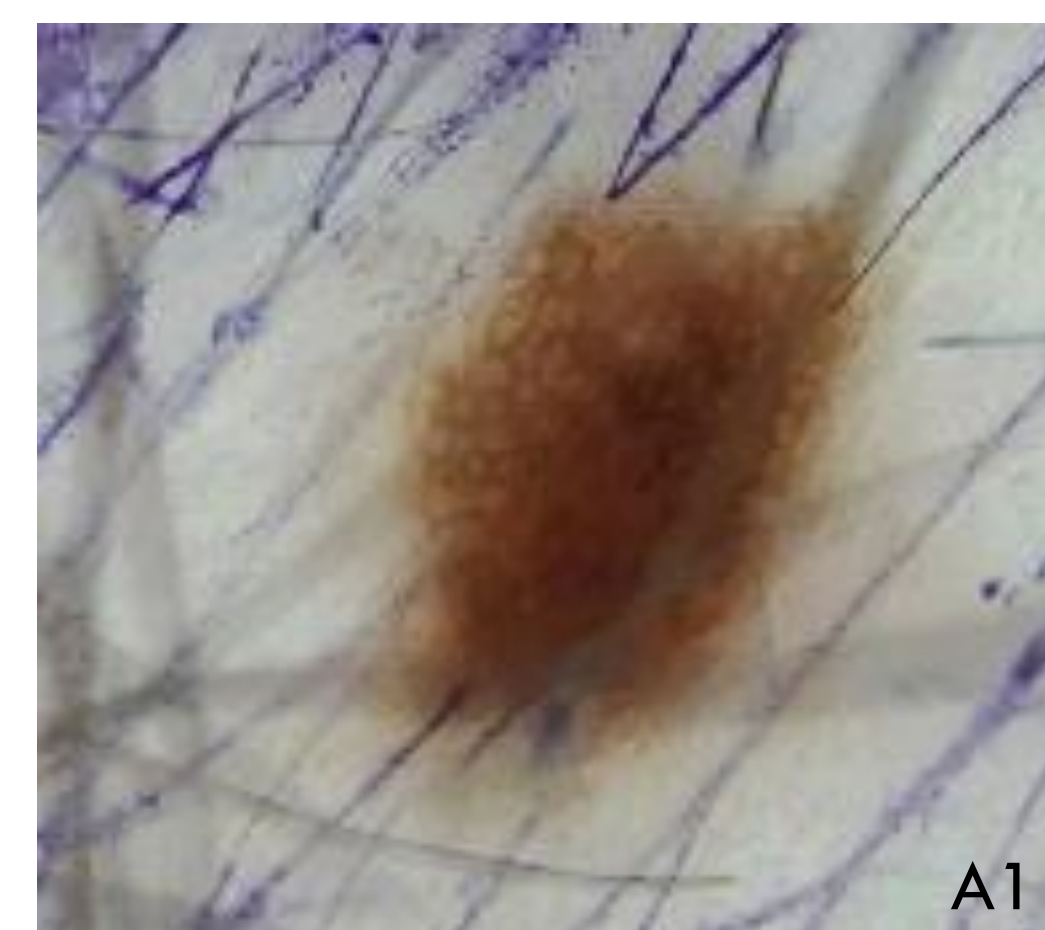
The photographed lesions were assessed by a consultant dermatologist and dermatology registrar and compared with the standard method of dermoscopic photography. (2)

Photos taken with the smartphone attachment were found to be, in 97% of photos, equivalent in terms of resolution, field of view and colour quality on visual assessment by a consultant dermatologist, to those taken using the traditional method

34/35 lesions photographed were deemed suitable for remote lesion assessment.



Dermlite HUD®



A1 – dysplastic naevus, excised with diagnosis confirmed on histology



B1 – benign lesion

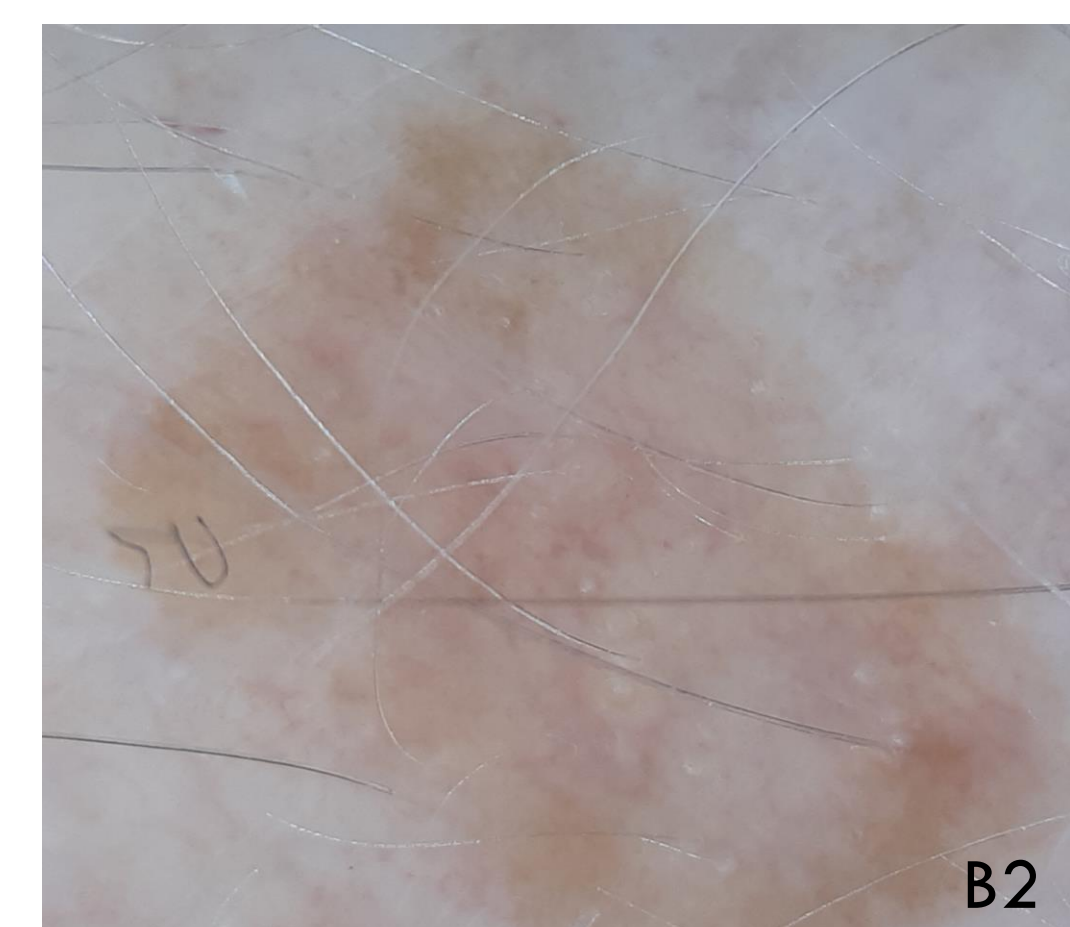


C1 – Subsequently followed up and consistent with haematoma

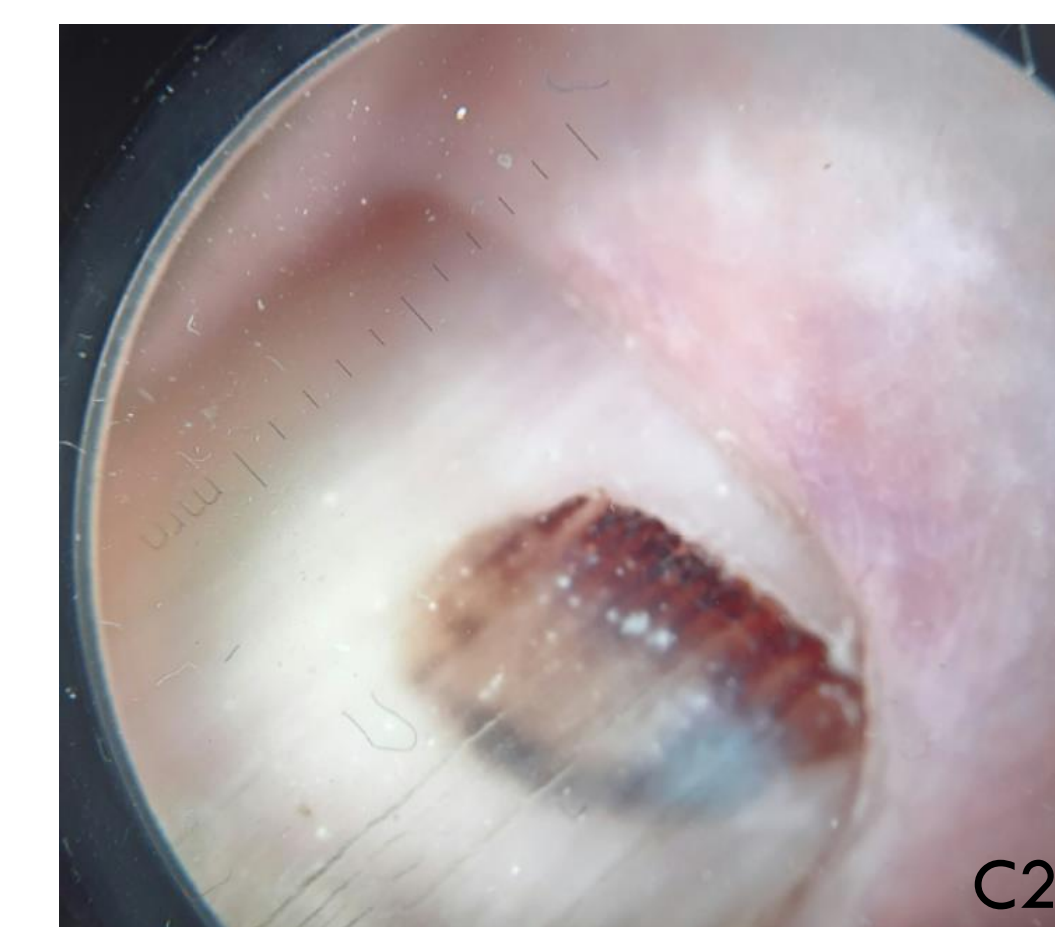
Top Row A1-C1: Dermoscopy images obtained using a basic model android smartphone camera with Dermlite HUD® attachment



A2



B2



C2

Bottom Row A2-C2: Corresponding images of the same lesions, taken using a digital camera and standard dermatoscope, in accordance with current practice in the department

Conclusions

Low-cost smartphone dermatoscope attachments provide images of comparable quality to those taken with a traditional dermatoscope and camera.

This offers an opportunity to facilitate fully virtual assessment of low-risk skin lesions and is of particular use in patients unable to travel to clinics or during lockdowns to facilitate virtual clinics.

Following validation of this smartphone attachment, our next step will be to provide the mobile dermoscopic attachment to referred patients.

We plan to select patients at triage with low-risk skin lesions and the ability to take photographs on smartphones.

Our hospital has an established validated pathway for the sending and returning of medical devices to patients to facilitate remote investigation and appropriate decontamination.

We have ethical approval for this study, and plan to use this pathway to facilitate entirely virtual assessment of low-risk lesions (single lesions with no significant risk factors, no history of immunosuppression or melanoma) by consultant dermatologists, protecting our patients during the COVID-19 pandemic.

Literature cited

- 1 Vestergaard T, Prasad S, Schuster A et al. Introducing teledermoscopy of possible skin cancers in general practice in Southern Denmark. *Fam Pract.* 2020;37(4):513-518. doi:10.1093/fampra/maa041
- 2 Celebi M, Mendonça T, Marques J. *Dermoscopy Image Analysis*. 1st ed. Boca Raton, FL: CRC Press; 2015: pp 385-418

Acknowledgments

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