
Pitfalls of telehealth in the management of skin cancer: a COVID-19 perspective

Introduction

The swift arrival and spread of COVID-19 has transformed everyday interpersonal interactions. In attempts to control exponentially increasing infection rates, governments have been forced to implement heavy restrictions on travel as well as social interactions. Healthcare systems and the delivery of health services have also been overhauled not only to prepare for the influx of COVID-related admissions, but also to prevent disease spread in hospitals and clinics. In this setting, traditional bedside models of history-taking and examination have been increasingly replaced by telehealth as the preferred method of consultation. In Australia this shift in paradigm has been endorsed at the governmental level through the expansion of the Medicare Benefits Schedule to provide increased subsidisation for telehealth services.¹

The plastic and reconstructive surgery service at the Peter MacCallum Cancer Centre (Victoria, Australia), which has a heavy focus on cutaneous malignancies, has accordingly seen an increasing number of patients reallocated to telehealth reviews. From 16 March to 16 May 2020, 43 patients who would have had face-to-face (FTF) consultations in a pre-COVID setting were re-triaged to receive telehealth appointments instead. This date range was selected to correspond with the commencement of hospital COVID restrictions. Of these patients, 14 (33%) were referrals for new cutaneous malignancies and 29 (67%) were for postoperative or surveillance reviews. Notably, of the former, five consultations failed to provide a suitable management plan due to inadequate or inaccurate assessment of the lesion through telehealth, requiring further assessment at FTF appointments. This resulted in a delay of care for these patients by an average of 9.8 days. No patients

experienced significant deterioration in condition or symptoms during this time.

Discussion

Telehealth has been touted as a key to the provision of high-quality and accessible healthcare in the future,² and this has been supported by technological advances including higher-resolution images and more reliable internet networks. Certainly, teledermatology has been shown to be accurate and reliable in providing dermatological diagnoses.^{3,4} However, convenience should ultimately be superseded by accurate diagnosis and treatment, and it is apparent that the hurried implementation of telehealth recently has revealed deficiencies that need to be addressed.

Our unit's experience has shown that while many patients have been successfully diverted to telehealth in the setting of COVID-19, there remain subsets of patients for whom this is inadequate for instituting appropriate and timely management plans. For the purposes of a surgeon managing cutaneous malignancies, telehealth consultations with the patient are often unable to provide the level of detail needed to guide resection and reconstruction (**Table 1**). For example, a lesion's degree of mobility on underlying structures is crucial in planning for clearance of the malignancy at the deep margin. Assessing it requires a detailed appreciation of the cross-sectional anatomy, combined with physical manipulation of the lesion and correlation with the tactile response received. Accurate assessment of the plane of resection and the quality and laxity of the surrounding skin also guides reconstructive options of the eventual defect. To ask patients or non-surgeons to examine and demonstrate these nuanced findings through video can be challenging. This was the perpetrating factor in one of our cases when a patient's

Table 1. Factors impacting the surgical resection and reconstruction of cutaneous skin malignancies

Factors impacting resection	Factors impacting reconstruction
Pathological diagnosis	Size of eventual defect
Dimensions of lesion	Composition of eventual defect
Mobility on underlying structures (corresponding to depth of invasion) [†]	Surrounding skin laxity (to accommodate for primary closure) [†]
Nodal or distant metastases [†]	Surrounding skin quality (to accommodate for closure under tension) [†]

[†] factors requiring physical examination

treatment was delayed. A new skin malignancy on the nasal dorsum was initially assessed through telehealth and booked for an excision and full-thickness skin graft reconstruction. However, upon physical examination on the day of surgery, it was immediately apparent that the lesion was fixed and involving bone. CT confirmed invasion into nasal bones, necessitating postponement of the surgery to plan for more extensive resection and reconstruction.

In light of the above, we recommend that when faced with an uncertain diagnosis or assessment, there must be a low threshold for swiftly reverting to FTF reviews. In order to minimise potentially harmful misdiagnoses or delays in treatment, we also believe that consultations regarding the following should automatically trigger FTF appointments:

- locally advanced lesions with clinical or radiological invasion into subcutaneous tissues
- lesions excised at an external facility with inadequate deep clearance margins
- head and neck cutaneous malignancies, especially around the scalp, nasal, orbital and auricular regions
- recurrent malignancies, especially in sites reconstructed with skin grafts or flaps
- lesions arising in areas that have previously received radiotherapy.

Conclusion

COVID-19 will undoubtedly leave an enduring impact on the global landscape, both socially and clinically. Telehealth has rapidly risen in popularity and its efficacy should improve with increased familiarity and more refined guidelines. In the management of cutaneous malignancies, however, the visual detail and tactile feedback from in-person assessment of lesions is crucial to the accuracy of diagnosis as well as treatment. Telehealth must be used judiciously in this setting, with careful attention paid to its limitations.

Disclosure

The authors have no conflicts of interest to disclose.

Funding

The authors received no financial support for the research, authorship and/or publication of this article.

David Lu MBBS

Plastic surgery registrar, Peter MacCallum Cancer Centre, Melbourne, Victoria, AUSTRALIA

Angela Webb MBBS FRACS (Plast)

Director, Plastic and reconstructive surgery unit, Peter MacCallum Cancer Centre, Melbourne, Victoria, AUSTRALIA

References

- 1 Hunt G. COVID-19: whole of population telehealth for patients, general practice, primary care and other medical services [internet]. Australia: Department of Health. [Cited 29 March 2020]. Available from: www.health.gov.au/ministers/the-hon-greg-hunt-mp/media/covid-19-whole-of-population-telehealth-for-patients-general-practice-primary-care-and-other-medical-services.
- 2 Institute of Medicine (US) Committee on Quality of Health Care in America. *Crossing the quality chasm: a new health system for the 21st century*. Washington: National Academies Press, 2001; ch 7.
- 3 High WA, Houston MS, Calobrisi SD, Drage LA, McEvoy MT. Assessment of the accuracy of low-cost store-and-forward teledermatology consultation. *J Am Acad Dermatol*. 2000;42(5):776–83. <https://doi.org/10.1067/mjd.2000.104519> PMID:10775853
- 4 Lim AC, Egerton IB, Shumack SP. Accuracy and reliability of store-and-forward teledermatology: preliminary results from the St George teledermatology project. *Australas J Dermatol*. 2001;42(4):247–51. <https://doi.org/10.1046/j.1440-0960.2001.00529.x> PMID:11903155

OPEN ACCESS

Citation: Lu D, Webb A. Pitfalls of telehealth in management of skin cancer: a COVID perspective. *Australas J Plast Surg*. 2020;3(2):7–8. <https://doi.org/10.34239/ajops.v3n2.241>

DOI: 10.34239/ajops.v3n2.241

Keywords: microsurgery, reconstructive surgical procedures, training support

Submitted: 21 June 2020

Accepted: 29 June 2020

Published: 30 September 2020

Copyright © 2021. Authors retain their copyright in the article. This is an open access article distributed under the Creative Commons Attribution Licence 4.0 which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.