

Inpatient teledermatology in the era of COVID-19 and the importance of the complete skin examination



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INTRODUCTION

In response to the coronavirus disease 2019 pandemic, an unprecedented increase in telemedicine use has occurred. Rapid implementation of teledermatology in all subsets of the specialty has led to unique opportunities, as well as challenges.¹ For dermatology hospitalists, the viral pandemic necessitated the creation of original work-flow algorithms designed to balance the risk of exposure and resource consumption with the unique needs of hospitalized patients with skin disease.² Teleconsultation was identified as a valuable tool; however, this modality necessitates the shift of vital components of dermatology consultation to the referring provider, including meaningful and complete skin examination, as well as procurement of appropriate, quality images. This is an important limitation and an area for opportunity and education, as highlighted by the following case.

CASE REPORT

A woman in her 70s was admitted to an inpatient rehabilitation hospital after a 10-day acute hospitalization for an ischemic stroke. The inpatient dermatology team was consulted for a vesicular eruption on the buttocks. The primary physical medicine and rehabilitation team had taken a photograph and requested teleconsultation to determine whether the eruption appeared consistent with shingles. On review of the image and clinical history, the differential diagnosis included cutaneous herpes simplex and herpes zoster viral infections (Fig 1). Our inpatient teledermatology work flow was reviewed and, because the patient was located in a low-risk site without concerning symptoms and did not require use of limited personal protective equipment, the resident-attending physician team elected to treat the patient in person. Careful clinical



Fig 1. Teledermatology image provided to dermatology consultants of a vesicular rash on the buttock.

examination revealed bilateral vesicular lesions on the buttocks, suggestive of cutaneous herpes simplex, which was confirmed via polymerase chain reaction testing. On full skin examination, however, an atypical pigmented lesion on her left lower leg was also identified, which had not previously been noted (Fig 2). An incisional biopsy was performed at the bedside, which confirmed the diagnosis of a malignant melanoma measuring 1.1 mm deep.

DISCUSSION

In this case, in-person evaluation by dermatologists led to a profound influence on morbidity and, potentially, mortality. Near-miss cases such as this allow an opportunity for reflection and highlight the importance of the ability to accurately triage patients before determining whether they are amenable to teleconsultation. This requires an accurate understanding of what is truly on their skin—including a full skin examination to identify additional, subtle features of disease or secondary diagnoses—which may be more important than the reason for

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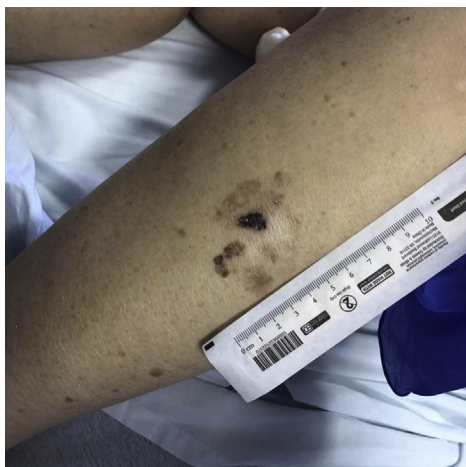


Fig 2. Incidentally noted melanocytic lesion on the left shin, measuring 4×5.5 cm in maximal dimensions, with areas of regression and a central brown-black patch measuring 6×15 mm, with irregular pigment network and pseudopods at periphery.

consultation itself. Indeed, additional cutaneous diagnoses are not uncommon in the hospital setting, reported in 12% of hospitalized oncology patients in a single cohort.³ The reliability of referring provider examination is also undefined. Previous investigation of outpatient dermatology referrals for evaluation of specific lesions of interest demonstrated a significant proportion of malignant lesions that were incidentally found and previously unrecognized by the referring provider.⁴

When one is presented with an isolated image, it can be very difficult to accurately assess risk,

particularly if the image quality is poor. Subsequent in-person evaluation can reduce the potential for misdiagnosis, although this is not always possible. Although the current viral pandemic presents unique barriers to patient care and requires practice flexibility, the need for inpatient teleconsultation will likely persist in underserved areas because of the incidence of cutaneous disease among hospitalized patients.⁵

This case demonstrates that in situations in which we do not have ready access to patients, we need to properly equip our consultants to better serve as extensions of the care that we typically provide. At minimum, this includes direction and education regarding the obtainment of images, a complete skin-directed physical examination, and an appropriate review of systems.

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