



JAMDA

journal homepage: www.jamda.com

Controversies in Long-Term Care

Skin Failure: An Emerging Concept

Jeffrey M. Levine MD, AGSF, CMD, CWSP*

Center for Advanced Wound Care, Beth Israel Medical Center and Icahn School of Medicine at Mount Sinai, New York, NY

A B S T R A C T

Keywords:

Quality
pressure ulcers
quality measurement
long-term care

Skin failure is an emerging concept that clarifies trends in clinical practice. Its recognition provides common nomenclature, opens research directions, and questions assumptions regarding pressure ulcers as a quality measure. Adoption of the term is a step toward uniform terminology in compliance with a value based payment system.

© 2016 AMDA - The Society for Post-Acute and Long-Term Care Medicine.

Skin failure is an emerging concept that ties together and clarifies current trends in clinical practice. Many studies have associated acute and chronic skin ulceration with mortality, yet the term skin failure has not been adapted to this phenomenon.^{1–3} Wound care providers have long recognized that skin failure exists, but common use of the term has been limited due to confusion as to its clinical manifestations. Terms such as Kennedy Terminal Ulcer (KTU), skin changes at life's end (SCALE), and the Trombley-Brennan Terminal Tissue Injury (TB-TTI) lesion have been advocated to describe the common clinical observation of skin breakdown in patients who are dying.^{4–6} However this nomenclature does not fit into the clinical course of wounds that have similar characteristics but the patient does not expire. The term skin failure assembles these clinical observations into an easily understandable and more clinically accurate term.

Pressure ulcers are a major concern in post-acute and long-term care settings.^{7–9} Reported incidence of pressure ulcers in long-term care varies widely in the literature, ranging from 3.6% to 59.0%.¹⁰ The incidence in terminally ill nursing home residents is reported as high as 54.7%.¹¹ Pressure ulcers are also a major target for litigation in negligence claims against nursing homes, second only to falls.¹² According to the Agency for Healthcare Research and Quality there are more than 17,000 lawsuits related to pressure ulcers annually.¹³

There is ample evidence to support the argument that improvements in nursing care relevant to skin care/pressure ulcer prevention or management have contributed to better skin outcomes in both hospital and long-term care settings.^{14,15} Evidence-based advances include risk-assessment tools and improved preventive interventions and technologies.⁷ Nonetheless, there is growing recognition that

pressure ulcers can occur even when risk is recognized and preventive interventions are implemented.¹⁶

We now have improvements in life-support technologies in intensive care, hospital, and rehabilitation settings applied to an increasingly high-risk population that effectively prolongs life, therefore negating terminology that implies mortality. Pressure ulcer development is a significant predictor of mortality, and is associated with failure of multiple organ systems.¹⁷ Nonetheless, many patients who develop pressure ulceration in the face of acute or chronic illness do not die and may go on to heal. This article proposes clarification of nomenclature through recognition of skin failure as a clinical syndrome that shares similar mechanisms with other organs. This will encourage a broader conceptual framework acknowledging that some pressure ulcers, whether or not associated with mortality, are unavoidable consequences of skin failure. Unification of terminology that acknowledges skin failure accounting for unavoidable pressure ulceration is necessary in the era of value-based health care.

What is Skin Failure?

Langemo and Brown¹⁸ defined skin failure as an event whereby skin and underlying tissues die due to hypoperfusion that occurs concurrent with dysfunction or failure of other organ systems, but this is not the only definition. Clinical manifestations of skin failure vary widely in the medical literature (see [Table 1](#)). Some authors describe skin failure from dermatologic conditions, such as erythroderma, toxic epidermal necrolysis, Stevens-Johnson syndrome, or scalded skin syndrome, without considering pressure ulceration.^{19,20} Other authors recognize skin failure but state that it is a separate entity from pressure ulceration.^{21,23} Still others classify pressure ulcers directly under the category of multiple-organ failure that accompanies the terminal stages of disease processes and advanced age.²² This confusion in taxonomy has resulted in limited clinical usefulness and unclear practical application of the term. To enhance the practical application

The author declares no conflicts of interest.

* Address correspondence to Jeffrey M. Levine, MD, AGSF, CMD, CWSP, 928 Broadway, Ste. 709, New York, NY 10010.

E-mail address: jlevinemd@shcn.com.

<http://dx.doi.org/10.1016/j.jamda.2016.03.014>

1525-8610/© 2016 AMDA - The Society for Post-Acute and Long-Term Care Medicine.

Table 1
Clinical Manifestations of Skin Failure as Described in the Literature

Clinical Features	References
Skin failure includes dermatologic conditions such as Stevens-Johnson Syndrome; no mention of pressure ulcers.	Irvine ¹⁹ (1991), Inamadar and Palit ²⁰ (2005)
Skin failure is a separate entity from pressure ulcers.	White-Chu and Langemo ²¹ (2012)
Pressure ulcers are a manifestation of skin failure in the setting of multiple organ system failure.	Witkowski and Parish ²² (2000)

of this definition, there must be clarification of its physiologic, pathologic, and molecular mechanisms and guidance as to clinical manifestations at the bedside. The definition of skin failure must include diagnostic criteria that relate to specific functions of skin, analogous to criteria for failure of any other organ system.

When defining clinical criteria for skin failure, a logical place to start is the normal function of skin. If skin no longer performs its role maintaining vasomotor tone, body temperature, and water balance, and ceases protecting the body from infection and mechanical trauma, it can be considered to be failing. In this model, the KTU, SCALE, and TB-TTI are manifestations of skin failure because the organ can no longer provide protection from external insults, allowing entry of bacteria. Skin failure can account for the high rate of breakdown in the setting of multiorgan system failure, and unavoidable pressure injury when preventive interventions have been implemented. By folding these observations into the spectrum of skin failure, quality deficit implications are removed and the terminology becomes more accurate and uniform.

Case Examples

Case 1

A 68-year-old man with type 2 diabetes mellitus and history of smoking 2 packs per day presented to the emergency room (ER) with 3 months of cough, poor appetite, 15-pound weight loss, dyspnea, and weakness. Past history included prostate cancer treated with radical prostatectomy and external beam radiation. His oxygen saturation was in the 70s and he was intubated and admitted to the critical care unit, where workup revealed nonresectable squamous cell lung cancer metastatic to mediastinum and liver. Other physiologic parameters included serum albumin of 2.1. In the intensive care unit (ICU) his Braden Score was 14 and preventive measures were implemented including offloading and pressure redistribution surfaces. He was extubated after 8 days and elected to undergo chemotherapy, but suffered worsened anemia and pancytopenia, and his appetite remained poor. After 2 weeks in the hospital he developed a purple area on his left buttock that was determined to be a deep tissue injury (DTI). He was transferred to a post-acute care facility where the DTI evolved into an eschar that required sharp debridement. The patient died on hospice 4 months after initial presentation.

Case 2

A morbidly obese 55-year-old man on long-term prednisone for chronic obstructive pulmonary disease presented to the ER hypotensive with colon perforation and septic peritonitis. He underwent emergency exploratory laparotomy with partial bowel resection, and was admitted to the ICU where he remained hypotensive in septic shock on pressor agents and intravenous antibiotics. His Braden Score was 10 and preventive measures were implemented, including offloading and pressure redistribution surfaces. On the 10th hospital day,

he was noted to have DTI to the sacral area that progressed to eschar. He was discharged to a post-acute care rehabilitation setting after 1 month in the hospital, but had a stage 4 pressure ulcer that required months of inpatient and outpatient wound care, including sharp debridements and negative-pressure wound therapy.

Case 3

An 87-year-old woman suffered from Alzheimer dementia for 8 years, lost her ability to eat, and suffered an 18-pound weight loss. Her health care proxy “wanted everything done” and a percutaneous gastrostomy was inserted. She lived in a nursing home and was hospitalized several times for recurrent urinary tract infections and aspiration pneumonia. Her Braden Score remained in the 8 to 12 range, and she remained on a turning regimen and pressure redistribution surface. After 2 years on a feeding tube she developed skin breakdown to the sacrum and left hip that progressed to eschar, and died 3 weeks later.

The Historical Context of Skin Failure

Historical factors in the medical industry have created barriers that inhibit a unified, interdisciplinary approach to skin failure. In 1859, Florence Nightingale declared in her seminal book, *Notes on Nursing*, that pressure ulcers were the result of inadequate nursing.²⁴ This view is outdated, but remains part of our health care culture, and nurses are largely responsible for pressure ulcer prevention and basic skin care. Treatment of advanced pressure ulceration is not commonly addressed by internal medicine physicians except for infected wounds, and their care is generally delegated to surgeons or surgical subspecialties. Dermatology branched off into its own specialty, separate and apart from internal medicine in the 20th century, and with some exceptions remains primarily an outpatient practice. Many medical doctors today have had little training in the basics of wound care and pressure ulcer staging.²⁵ These combined factors create barriers whereby skin is often not considered in the problem list of the internist or primary care physician, and omitted from the practitioner’s list of concerns. Although this omission appears illogical, it is reinforced by the medical profession’s history, education, and culture.

In the 19th century, the great neurophysiologist Jean Martin Charcot recognized that a specific type of pressure ulcer heralds impending death, and he named this entity the *decubitus ominosus*.²⁶ Charcot’s nomenclature was subsequently forgotten, but the concept that pressure ulcers precede death was revived in the late 20th century with the KTU.⁴ The KTU provides succinct description of a phenomenon that nearly everyone in the wound care field has observed at the bedside, and is commonly used despite lack of universal acceptance and limited research validation.²⁷ A similar lesion, the TB-TTI, was described in 2012.⁶ A major challenge for these eponymous syndromes is lack of a soundly proven pathophysiological framework and the observation that some patients with similar wounds do not die.

In an effort to improve the scientific framework of the KTU, a panel of experts expanded on the concept of skin changes at life’s end, naming it SCALE.⁵ However, neither KTU nor SCALE nomenclature accounts for patients whose physical decline approaches death but where death does not occur. When patients develop pressure-related injury when critically ill or dying, and medical interventions and life-support technologies result in clinical improvement or maintenance of a state of chronic critical illness, accuracy of the terms KTU, SCALE, and TB-TTI is compromised. Nonetheless, similar mechanisms apply, and nomenclature accounting for the entire spectrum of clinical observations is essential. This revised paradigm is best framed in the context of skin failure that incorporates *decubitus ominosus*, KTU,

Download English Version:

<https://daneshyari.com/en/article/6049193>

Download Persian Version:

<https://daneshyari.com/article/6049193>

[Daneshyari.com](https://daneshyari.com)