prior to initiating cancer treatment. Int J Behav Med 2018; 1–15.

10. Zhou ES, Partridge AH, Syrjala KL, Michaud AL, Recklitis CJ. Evaluation and treatment of insomnia in adult cancer survivorship programs. J Cancer Surviv 2017;11: 74–79.

Prognostication Using SCORTEN Severity of Illness Score in Patients With Stevens Johnson Syndrome and Toxic Epidermal Necrolysis

To the Editor:

Often in cases of severe injury or pathology, unclear prognosis and the lack of availability of concrete mortality measurements make goals-of-care (GOC) discussions with patients and their families difficult. Palliative care providers are sometimes involved in the care of patients with severe dermatological illnesses, such as Steven's Johnson syndrome (SJS) or toxic epidermal necrolysis (TEN), and knowledge of the prognostic tools used in these conditions is helpful. The incidence of SJS is estimated at 1–6 cases/million people, and the incidence of TEN is 0.4–1.2 cases/million people; the mortality rates are 1%–5% and 25%–35%, respectively.[1] Because of the high mortality and other severe consequences of SJS/TEN, it is necessary to obtain a rapid diagnosis and evaluation of prognosis. Therefore, we describe a case to provide palliative care providers with the knowledge of the SCORTEN illness severity and in-hospital mortality calculator and demonstrate how having such a tool can aid in facilitating GOC discussion, leading to improved prognostication and patient end-of-life care.

Case Description

A 63-year-old woman with a history of myocardial infarction, cardiomyopathy, and hypertension presented to an outside hospital with fatigue and rash while undergoing treatment with doxycycline for a lower extremity cellulitis diagnosed a few days prior. On removal of the patient's clothes for physical examination, her skin sloughed off in sheets over multiple areas of her body. The patient was transferred to our institution's surgical ICU burn unit for suspected SJS and started on ceftaroline and IV fluids.

On arrival at our hospital, the patient was hypotensive, tachycardic, and complaining of 8/10 generalized body pain. Her radial and pedal pulses were absent bilaterally. She had a 1-inch hemostatic wound in the right inguinal region. Her skin examination was notable for diffuse lacy open skin sloughing, exposing raw, red skin on approximately 65% of her total body surface area including her chest, abdomen, groin, buttocks, and back as well as superficial ulcerations of the oral mucosa.

Based on the patient's skin findings in the context of recent exposure to doxycycline, she was diagnosed with TEN. The patient's SCORTEN score was calculated to be 5, receiving one point for each of the following: age >40 years, >10% total body surface area involvement, serum bicarbonate <20 mEq/L, serum BUN >28 mg/dL, and serum glucose >252 mg/dL. Her SCORTEN score of 5 correlated with a >90% chance of in-hospital mortality.

Unfortunately, despite interdisciplinary effort, the patient's clinical condition continued to worsen. Her last set of vital signs included a blood pressure of 40/30, despite maximum presser support, a temperature of 93.0 F, and staff were unable to obtain a pulse oximetry reading. Palliative care was consulted at this time, and a GOC discussion was held with the patient's family, the palliative care team, and the burn team. After review of the patient's clinical condition and prognosis via the SCORTEN assessment given, the patient's code status was changed to DNR and comfort care measures were ordered. Soon after this conversation, the patient developed ventricular tachycardia, asystole, and then expired, just over 24 hours from initial presentation, with her family at her bedside.

Comment

The SCORTEN severity of illness score was developed and validated to evaluate the risk of in-hospital death in patients diagnosed with TEN.[2] Though originally developed only for use in patients with TEN, it is now additionally used for burn victims and patients with other cutaneous drug reactions or exfoliative wounds.[3] It was developed using data from 165 patients and was then validated on an additional sample of 75 patients.[2] This score uses seven independent risk factors to aid in predicting in-hospital mortality in patients diagnosed with these severe skin reactions.[2]These risk factors are age above 40 years, presence of malignancy, tachycardia above 120 bpm, greater than 10% of epidermal detachment at admission, serum urea nitrogen level above 10 mmol/L, serum glucose level above 14 mmol/L, and bicarbonate level below 20 mmol/L. Patients get one point for each of these risk factors, and that score is correlated with a percentage of likely in-hospital mortality.[2] This score is quick and simple enough to calculate at the patient's bedside after initial venipuncture. This can then expedite and direct course of care for very sick patients.

Since the development of the SCORTEN scale, there have been several studies that have attempted

to assess the accuracy of SCORTEN in predicting in-hospital mortality. These studies overall have shown that the SCORTEN performance during the first five days of hospitalization was excellent and is best on Day 3.[4] The most recent accuracy study was a retrospective study that included adult and pediatric patients admitted to a burn center with biopsy-confirmed SJS/TEN. SCORTEN scores were calculated on Day 1 and Day 3 of hospital admission, and they compared predicted with actual mortality in these patients. This study, however, claims that the accuracy of the SCORETEN model remains unclear and could be more precise, therefore encouraging future studies to explore other variables and a possible reformulated SCORTEN.[5] These studies exemplify that like many things in medicine, mortality probability models cannot 100% predict outcomes in individual patients.

That said, the presence of palliative medicine is increasing in ICU settings, and there is an increasing need for prognostic tools and evidence-based practice to help facilitate GOC discussion. In support of the traditional palliative care philosophy, recent findings show that aggressive end-of-life care does not correlate with improved perception of the medical care received near time of death and that many patients near the end of life often prefer palliative treatments over aggressive life-extending therapies.[6] Because the SCORTEN assessment was available and done quickly, we were able to present this patient's family members with an accurate prognostication of their loved one's in-hospital mortality. With these data, we were able to have a more direct GOC discussion, and the patient was able to die with care in accordance with her wishes.

This case study and discussion demonstrates the acuity of decision making necessary in a patient with severe integument injury with a >90% in-hospital mortality likelihood. It additionally provides palliative care providers with the knowledge of the SCORTEN illness severity and in-hospital mortality scale, demonstrating how having such a tool can aid in expediting GOC discussions, leading to improved patient end-of-life care.

Olivia M. Seecof, MD
Department of Family and Community Medicine
Thomas Jefferson University
Philadelphia, Pennsylvania, USA
E-mail: Olivia.seecof@jefferson.edu

John Liantonio, MD
Division of Geriatrics and Palliative Care
Department of Family and Community Medicine
Thomas Jefferson University
Philadelphia, Pennsylvania, USA

https://doi.org/10.1016/j.jpainsymman.2018.09.019

Disclosures and Acknowledgments

Olivia M. Seecof, MD and John Liantonio, MD have nothing to disclose.

References

1. Roujeau JC, Kelly JP, Naldi L, et al. Medication use and the risk of Stevens-Johnson syndrome or toxic epidermal necrolysis. N Engl J Med 1995;333:1600–1607.

2. Bastuji-garin S, Fouchard N, Bertocchi M, Roujeau JC, Revuz J, Wolkenstein P. SCORTEN: a severity-of-illness score for toxic epidermal necrolysis. J Invest Dermatol 2000;115:149–153.

3. Zhu QY, Ma L, Luo XQ, Huang HY. Toxic epidermal necrolysis: performance of SCORTEN and the score-based comparison of the efficacy of corticosteroid therapy and intravenous immunoglobulin combined therapy in China. J Burn Care Res 2012;33:e295–e308.

4. Guégan S, Bastuji-garin S, Poszepczynska-guigné E, Roujeau JC, Revuz J. Performance of the SCORTEN during the first five days of hospitalization to predict the prognosis of epidermal necrolysis. J Invest Dermatol 2006;126:272–276.

5. Zavala S, O'mahony M, Joyce C, Baldea AJ. How does SCORTEN score? J Burn Care Res 2018;39:555–561.

6. O'Connell K, Maier R. Palliative care in the trauma ICU. CurrOpinCrit Care 2016;22:584–590.

Comparability of the Australian National Cancer Symptom Trials (CST) Group's Study Populations to National Referrals to Non-CST Specialist Palliative Care Services Participating in the Palliative Care Outcomes Collaboration

Introduction

Using the results of Phase III studies in clinical practice depends on how representative study participants are of the clinical population to whom the results will be applied. The closer the characteristics between the subgroup who participate in a clinical trial and the whole population, the easier it is for clinicians to apply the results directly to the patient that he/she is treating. Trial participation is generally more happenstance than a systematic sampling of a population and is limited by eligibility criteria that do not reflect the entire clinical population.[1]

Phase III study populations tend to be younger with fewer comorbidities and not represent the gender and ethnicity of the target population, limiting generalizability of results.[1,2] When moving from Phase III studies to Phase IV postmarketing studies, there will