VANDERBILT UNIVERSITY MEDICAL CENTER

Protocol: Management of patients with suspected Stevens-Johnson Syndrome (SJS)/Toxic Epidermal Necrolysis (TEN)

Category	Clinical Practice
Protocol Number	BC-2018-01
Approval Date:	5/8/2018
Interim Burn Director:	

Applicable to						
☒ VUH	☒ VCH	☐ DOT	☐ VMG Off-site locations	☐ VMG	☐ VPH	☐ Other

Team Members Performing						
☐ All faculty & staff ☐ Other:	☒ Faculty & staff providing direct patient care or contact	☒ MD	☒ House Staff	☐ APRN/PA	☐ RN	☐ LPN

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Objectives
Provide guidance on the initial workup of patients with suspected SJS/TEN. Provide suggested management of patients with confirmed SJS/TEN.

Scope
Standardizing the workup and management of patients with confirmed or suspected SJS/TEN.

Audience
All providers caring for burn patients

Guidance

I. Management of referrals from outside hospitals via Access Center
   A. *If referral is from an ED*:
      - Standard access center call will take place with the addition of photographs of the affected areas emailed to the access center and forwarded to the burn surgeon and dermatology resident and attending on call.
      - Burn surgeon and dermatology resident/attending on-call will review and if they believe the diagnosis is possible, burn surgery will accept transfer to VUMC ED for further evaluation.
      - If Burn surgeon and dermatology resident/attending on-call do not believe that the diagnosis is SJS/TEN, dermatology will provide further input on appropriate management.
   B. *If referral is from an inpatient unit WITH biopsy-confirmed SJS/TEN:*
      - Patient will be accepted as a direct admit to the BICU using standard operating procedures.
   C. *If referral is from an inpatient unit WITHOUT biopsy-confirmed SJS/TEN:*
      - Standard access center call will take place with the addition of photographs of the affected areas emailed to the access center and forwarded to the burn surgeon as well as dermatology resident and attending on-call.
      - Burn surgeon and dermatology resident/attending will review and if they believe the diagnosis is possible, the burn surgeon will accept as a direct admit to the BICU.
      - If Burn surgeon and dermatology resident/attending on-call do not believe that the diagnosis is SJS/TEN, dermatology will provide further input on appropriate management.
      - If the patient requires high level of dermatologic care, they will be accepted in transfer by medicine and dermatology and burn surgery consults will be placed upon his/her arrival.

II. Initial Evaluation of the patient with possible SJS/TEN

A. Primary Survey (ABCs)

B. Complete history and physical exam paying particular attention to current medications, recent medication or dosing changes, recent illnesses, timing and progression of rash, presence of ocular symptoms, presence of genital lesions, history of immunosuppression. Exam should include evaluation of the type of rash, presence of blisters, coalescence of blisters, presence of a Nikolsky's sign, and percent total body surface area (%TBSA) that has sloughed.

C. Recommend that all patients with suspected SJS/TEN should have a consult by the burn surgery team. The burn surgery resident should staff the case with the burn fellow and burn attending in a prompt manner.

D. In patients in whom SJS/TEN is the likely diagnosis, the patient should be admitted to the burn ICU.

1. Airway/Breathing: Sloughing of the oral mucosa or bronchial tree can present a significant problem for the maintenance of an airway and appropriate gas exchange. Patients with difficulty controlling their secretions and/or difficulty phonating or with a muffled voice should be considered for intubation in addition to those patients that meet our regular parameters for needing airway protection/mechanical ventilation.
2. Circulation: Patients with SJS/TEN <u>DO NOT</u> require aggressive fluid resuscitation unlike a patient with a large thermal burn. Fluid resuscitation should be based on the patient's physiologic status at the time of admission and their response to fluid administration.[1] For adults, a urine output of 0.5cc/kg/hr is adequate. Fluid boluses should be limited to hemodynamic instability. In patients with >20% TBSA involved (meaning open or sloughed epidermis exposing dermis), a Foley catheter should be placed for monitoring urine output.
3. Consultations:
    i. Dermatology: This is a *required* consult for all suspected cases of SJS/TEN
    ii. Ophthalmology: This is a *required* consult for all patients with SJS/TEN.[2]
    iii. Gynecology: In female patients with concern for involvement of their vaginal or labial mucosa, a gynecology consultation is recommended for evaluation and possible management with vaginal dilators and/or packing.
    iv. Urology: A Foley catheter should be placed for patients with difficulty urinating (dysuria, hematuria, inability to void) as they may have sloughing of their GU tract. In this case, a urology consultation should be placed at time of Foley insertion to manage a potential urethral stricture.

4. Nutrition: If possible, oral feeding should be continued after admission. If a non-intubated patient is unable to swallow or unable to consume adequate calories (for example, in severe stomatitis), a feeding tube should be placed and tube feeds started. All intubated patients should have a feeding tube placed and tube feeds started on admission.
5. Wound management: Based on % open TBSA (exposed dermis after epidermal sloughing)
    i. For <20% TBSA: The blisters should be unroofed and the sloughed skin should be debrided gently, no intact skin should be debrided. The open areas should be covered in Bacitracin and Xeroform gauze, a silver based dressing, or xenograft. The patient should be made NPO at midnight for possible need for operative intervention should the sloughing extend to ≥20% TBSA.
    ii. For ≥20% TBSA, the patient should be taken to the operating room or hydrotherapy within 24hrs of presentation for gentle debridement of all of the blisters/sloughed skin (no debridement of intact skin) and placement of porcine xenograft.[3,4] Open areas may be covered with the above mention dressings until xenograft placement.
6. Chemotherapeutic Agents and/or Steroids: Administration of these medications should only occur after a discussion between the critical care attending, attending surgeon, and any consulting services.

E. In patients in whom SJS/TEN is possible but not a clear diagnosis, a punch biopsy will be performed by the dermatology service. This biopsy should be taken at an edge of sloughed tissue to involve normal tissue as well.
    1. If the patient is admitted to another service, and the burn service should be consulted and will follow as needed and make recommendations. If the diagnosis is not SJS, the burn team will sign off. If the diagnosis is SJS/TENS, burn surgery will assume care and the patient will be transferred to an appropriate bed in the burn unit.
    2. If the patient is a consultation from the ED and SJS is suspected, burn surgery will admit the patient and manage until biopsy results are confirmed. ICU vs. floor admission will be at the discretion of the attending physician(s). If, after biopsy, the diagnosis is not SJS, the patient will be transferred to an appropriate medicine team with dermatology consultation.
F. In patients in whom the diagnosis is not SJS/TEN, the burn service may sign off at the discretion of the consulting surgeon with a recommendation for dermatology consultation.

References:

1. Shiga S, Cartotto R. What are the fluid requirements in toxic epidermal necrolysis? *Journal of burn care & research : official publication of the American Burn Association.* 2010;31(1):100-104.
2. Saeed HN, Chodosh J. Ocular manifestations of Stevens-Johnson syndrome and their management. *Current opinion in ophthalmology.* 2016;27(6):522-529.
3. Marvin JA, Heimbach DM, Engrav LH, Harnar TJ. Improved treatment of the Stevens-Johnson syndrome. *Archives of surgery (Chicago, Ill : 1960).* 1984;119(5):601-605.
4. Young JB, Gondek SP, Troche M, et al. The use of porcine xenografts in patients with toxic epidermal necrolysis. *Burns : journal of the International Society for Burn Injuries.* 2016.