
**Oncologic Emergencies
for the Non-Oncologist**
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MedNet21
Center for Emergency Medical Education

THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

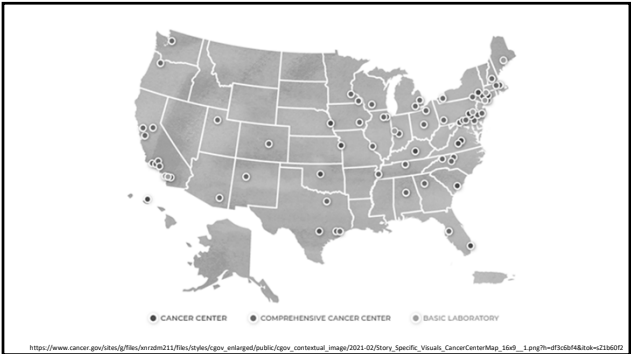
Disclosures

- I have no financial conflicts to report related to this presentation.

- Other research support for unrelated projects:
 - Beckman Coulter
 - PCORI
 - The Ohio Attorney General’s Office

Objectives

1. Explain the state of acute oncology for the emergency medicine clinician.
2. Describe common acute complications experienced by oncology patients.
3. Discuss current deficits seen by emergency medicine clinicians in the acute care of oncology patients.
4. Describe the care coordination for oncology patients across medical specialties.



Current state of unscheduled acute care

JAMA Oncol. 2017;14(12):1741-1748. doi: 10.1093/jco/kjx174. Epub 2017 Oct 12.

Trends in Adult Cancer-Related Emergency Department Utilization: An Analysis of Data From the Nationwide Emergency Department Sample.

Diener, D¹; Galloway, L¹; Ernst, J¹; Liu, H¹; Katsouyis, D¹; Struberts, N¹

¹ Author information

Abstract

IMPORTANCE: The emergency department (ED) is used to manage cancer-related complications among the 15.5 million people living with cancer in the United States. However, ED utilization patterns by the population of US adults with cancer have not been previously evaluated or described in published literature.

OBJECTIVE: To estimate the proportion of US ED visits made by adults with a cancer diagnosis, understand the clinical presentation of adult patients with cancer in the ED, and examine factors related to inpatient admissions within the population.

DESIGN, SETTING, AND PARTICIPANTS: Nationally representative data comprised of 7 survey cycles (January 2006–December 2012) from the Nationwide Emergency Department Sample were analyzed. Identification of adult (age ≥18 years) cancer-related visits was based on Clinical Classification Software diagnoses documented during the ED visit. Weighted frequencies and proportions of ED visits among adult patients with cancer by demographic, geographic, and clinical characteristics were calculated. Weighted multivariable logistic regression was used to examine the associations between inpatient admission and key demographic and clinical variables for adult cancer-related ED visits.

MAIN RESULTS AND MEASURES: Adult cancer-related ED utilization patterns, identification of primary reasons for ED visit, patient-related factors associated with inpatient admission from the ED.

RESULTS: Among an estimated 656 million weighted adult ED visits from January 2006 to December 2012, 23.6 million (3.6%) were made by a patient with a cancer diagnosis. The most common cancers associated with an ED visit were breast, prostate, and lung cancer, and most common primary reasons for visit were pneumonia (4.9%), nonspecific chest pain (3.7%), and urinary tract infection (3.2%). Adult cancer-related ED visits resulted in inpatient admissions more frequently (16.7%) than non-cancer-related visits (15.3%) ($P < .05$). Septicemia (odds ratio [OR], 11.2; 95% CI, 8.1–15.2) and intestinal obstruction (OR, 10.3; 95% CI, 6.1–11.4) were associated with the highest odds of inpatient admission.

CONCLUSIONS AND RELEVANCE: Consistent with national prevalence statistics among adults, breast, prostate, and lung cancer were the most common cancer diagnoses presenting to the ED. Pneumonia was the most common reason for adult cancer-related ED visits with an associated high inpatient admission rate. This analysis highlights cancer-specific ED clinical presentations and the opportunity to inform patient and system-directed prevention and management strategies.

Comprehensive Oncologic Emergencies Research Network (CONCERN)

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COMPREHENSIVE ONCOLOGIC EMERGENCIES RESEARCH NETWORK (CONCERN)

Overview

Membership

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- Overview
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- Organizational Structure
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Registration: It is now open for the Cancer-related Emergency and Urgent Care: Prevention, Management, and Care Coordination Workshop, which will be held virtually on December 1-3, 2021.

For more information on the agenda and related resources, visit the [event website](#).

<https://epi.grants.cancer.gov/concern/>

Overview

Established in March 2015

Open scientific forum for oncology and emergency medicine researchers.

Goal: Accelerate knowledge generation, synthesis and translation of oncologic emergency medicine research through multi-center collaborations.

Table 2. Most Common ED Diagnoses Among 1075 Patients With Active Cancer

ICD-10-CM Code I	ICD-10-CM Category	Frequency, No. (%) [95% CI]
R10	Abdominal and pelvic pain	100 (9.3) [7.6-11.2]
R50	Fever of other and unknown origin	87 (8.1) [6.5-9.9]
R06	Abnormalities of breathing	77 (7.2) [5.7-8.9]
R11	Nausea and vomiting	60 (5.6) [4.3-7.1]
R07	Pain in throat and chest	51 (4.7) [3.6-6.2]
D64	Other anemias	47 (4.4) [3.2-5.8]
E87	Other disorders of fluid, electrolytes, and acid-base balance	47 (4.4) [3.2-5.8]
R53	Malaise and fatigue	45 (4.2) [3.1-5.6]
E86	Volume depletion	43 (4.0) [2.9-5.4]
I26	Pulmonary embolism	39 (3.6) [2.6-4.9]

Abbreviations: ED, emergency department; ICD-10-CM, International Statistical Classification of Diseases, Tenth Revision, Clinical Modification.

Caterino et al. JAMA Netw Open. 2019; Mar 1;2(3):e190979.

Table 2. Most Common ED Diagnoses Among 1075 Patients With Active Cancer

ICD-10-CM Code I	ICD-10-CM Category	Frequency, No. (%) [95% CI]
J18	Pneumonia, unspecified organism	39 (3.6) [2.6-4.9]
D70	Neutropenia	37 (3.4) [2.4-4.7]
C34	Malignant neoplasm of bronchus and lung	36 (3.3) [2.4-4.6]
N39	Other disorders of urinary system	36 (3.3) [2.4-4.6]
R19	Other symptoms and signs involving the digestive system and abdomen	36 (3.3) [2.4-4.6]
C79	Secondary malignant neoplasm of other and unspecified sites	35 (3.3) [2.3-4.5]
M54	Dorsalgia (eg, radiculopathy, sciatica)	33 (3.1) [2.1-4.3]
G89	Pain, not elsewhere classified	28 (2.6) [1.7-3.7]
M79	Other and unspecified soft tissue disorders, not elsewhere classified (ie, nonspecific pain)	26 (2.4) [1.6-3.5]
R55	Syncope and collapse	26 (2.4) [1.6-3.5]

Abbreviations: ED, emergency department; ICD-10-CM, International Statistical Classification of Diseases, Tenth Revision, Clinical Modification.

Caterino et al. JAMA Netw Open. 2019; Mar 1;2(3):e190979.

What do the rest of us know?

ABFM In-Training Examination Content

Topic	Content %	Topic	Content %
Cardiovascular	12	Nonspecific	9
Endocrine	8	Psychogenic	7
Gastrointestinal	7	Reproductive – Female	4
Hematologic/Immune	3	Reproductive – Male	1
Integumentary	6	Respiratory	13
Musculoskeletal	12	Special Sensory	2
Nephrologic	3	Population-based Care	5
Neurologic	3	Patient-based Systems	5

<https://www.theabfm.org/sites/default/files/2019-02/InTrainingExamination-Outline.pdf>

The 2019 Model of the Clinical Practice of Emergency Medicine

The 2019 revision of the EM Model resulted in significant changes and clarifications, including the addition of an oncology section within Category 8, Hematologic and Oncologic Disorders

- Febrile Neutropenia
- Hypercalcemia of Malignancy
- Hyperviscosity Syndrome
- Malignant Pericardial Effusion
- Spinal Cord Compression
- Superior Vena Cava Syndrome
- Tumor Hemorrhage
- Tumor Lysis Syndrome

Bacon et al. J Emerg Med. 2020 May 28;50(3):467-469. doi:10.1016/j.jem.2020.05.002

EM Education – How are we doing?

Rajha et al. surveyed EM program directors (The American Journal of Emergency Medicine, 2020)

- Oncology topics are critical in the preparation of EM trained physicians?
 - Disagree: 4%
 - Neither Agree or Disagree: 6%
 - Agree: 75%**
 - Strongly Agree: 16%**
- Our EM residency program's didactic curriculum fully prepares residents for the recognition and management of oncologic emergencies.
 - Disagree: 14%
 - Neither Agree or Disagree: 22%
 - Agree: 59%**
 - Strongly Agree: 6%**

Febrile Neutropenia

- Single oral temperature measurement of $\geq 38.3^{\circ}\text{C}$ (101°F) or a temperature of $\geq 38.0^{\circ}\text{C}$ (100.4°F) sustained over a 1 hour period
And
- Severe neutropenia that is defined as an absolute neutrophil count (ANC) of < 500 cells/ mm^3 or expected during the next 48 hours
- Multiple etiologies including myelosuppression secondary to chemotherapy
- Treatment: *Apply National Guidelines* (Taplitz et al. J Clin Oncol. 2018)

MASCC Risk Index for Febrile Neutropenia

Identifies patients at low risk for poor outcome with febrile neutropenia.

INSTRUCTIONS
Use in outpatients, patients ≥ 18 years old with fever at least 38.3°C (101°F). Do not use in patients with acute leukemia undergoing induction chemotherapy or relapse. Hematopoietic stem cell transplant conditioning per CDA guidelines.

When to Use: Patients/Practices Why Use:

Burden of illness (symptom severity) as determined by clinician judgment of probability	None or mild	+3
	Moderate	+1
	Severe	0
Prophylaxis (if all events)	Yes	+1
	No	0
Actual CD4	Yes	+1
	No	0
Actual CD8	Yes	+1
	No	0
Type of cancer	Small bowel	+3
	Hematologic, no prior fungal infection	+1
	Hematologic, prior fungal infection	0
Dehydration requiring IV fluids	Yes	+1
	No	0
Status at onset of fever	Outpatient	+3
	Inpatient	0
Age (years)	<65	+1
	65-74	0
	≥ 75	-1

FACTS & FIGURES

MASCC Risk Index	Risk for febrile neutropenia	Recommendation*
0-1	Low risk	Consider oral and/or outpatient empirical antibiotic therapy.
+2	High risk	Assess for empiric antibiotics if not already initiated.

*From the JCO Clinical Practice Guidelines for the Use of Antimicrobial Agents in Hematology/Oncology (2018)

Klastersky J et al. J Clin Oncol. 2000 Aug;18(16):3038-51. <https://www.mdcat.com/mascc-risk-index-febrile-neutropeniaevidence>

Clinical Index of Stable Febrile Neutropenia (CISNE)

INSTRUCTIONS
Use in adult outpatients at least 18 years old with stable febrile fever at least 38.3°C (101°F). Use 0-3 and 4-5 in outpatients with neutropenia or < 500 cells/ mm^3 with expected increase to > 500 . Do not use in patients with acute organ failure, severe infection, hepatomegaly, or other reason for admission.

When to Use: Patients/Practices Why Use:

ECG (normal sinus rhythm)	ECG/PT: 1 - Capable of an effort, but no work activities, or at least minimal duty	+2	+2
Stress-induced hyperglycemia	White blood glucose ≥ 200 mg/dL 7-10 mmol/L or ≥ 200 mg/dL ≥ 11.1 mmol/L on admission or on arrival	Yes	+2
CD4	CD4: ≥ 500 (patients on therapy with $\geq 10\%$ of the remaining therapy, hepatomegaly, hepatomegaly)	Yes	+1
Cardiovascular disease history	Classic heart conditions (eg, coronary artery disease, congestive heart failure, cardiomyopathy, valvular disease, other cardiac malformations), TACO/TELD, history of large unoperated aortic aneurysm	Yes	+1
NO respiratory grade 2	Respiratory distress, or asthma, but not requiring hospitalization	Yes	+1
Monocytes	$> 100/\mu\text{L}$	0	+1

FACTS & FIGURES

Interpretation	CISNE	Risk category	Risk of hospitalization*	Recommendation
0	1 (Low)	1.3%	1.3%	Consider discharge with oral antibiotic after discussion with oncology
1-2	2 (Intermediate)	6.2%	6.2%	Use clinical judgment regarding admission. Consider oncology consultation.
3-5	3 (High)	30%	30%	Admit for further investigation, including blood culture.

Carmona-Bayonas A et al. Br J Cancer. 2011 Aug 23;105(5):612-7. <https://www.mdcat.com/clinical-index-stable-febrile-neutropeniaevidence>

Hypercalcemia

- Presentation:
 - GI symptoms, Neurologic changes, renal failure
- Severity:
 - Degree and rate of onset
- Causes:
 - Humoral: parathyroid hormone-related protein (PTHrP) secretion (80%)
 - Osteolytic (20%)
 - Vitamin D secretion
 - Ectopic PTH
- Treatment: Fluids, bisphosphonates, calcitonin, monoclonal antibody (Denosumab), avoid loop diuretics (volume dependent)

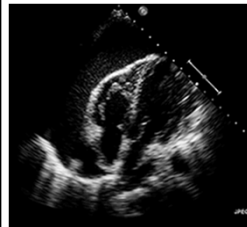
Sadiq NM, Naganathan S, Badreddy M. Hypercalcemia. [Updated 2021 Sep 11]. <https://www.ncbi.nlm.nih.gov/books/NBK430714/>

Hyperviscosity Syndrome

- Pathological increase in serum proteins, red blood cells (RBC), white blood cells (WBC), or platelets
- Triad: Neurologic deficits, bleeding, and visual changes (low flow state and platelet dysfunction)
- Waldenstrom Magroglobulinemia (10-30%), Myeloma (3-6%)
- Treatment: Plasmapheresis, Avoid dehydration (1-2L fluids), Treat etiology (Chemotherapy)

Weaver et al. Front Oncol. 2020 May 19;10:815
Perez Rogers et al. in: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan.

Malignant Pericardial Effusion



Author: Jer5150 (CC BY-SA 3.0)

- Most often caused by lung cancer, breast cancer, melanoma, lymphoma, and leukemia.
- Chemotherapeutic agents (e.g., cyclophosphamide, cytarabine, dasatinib, doxorubicin, gemcitabine).
- Beck's triad (hypotension, jugular venous distention, and muffled heart sounds) less likely due to slow accumulation.
- Intervention dependent of clinical stability.

Xiong W, Shi C. N Engl J Med 2011;364:e18.
<https://www.cancer.gov/publications/dictionaries/cancer-terms/def/malignant-pericardial-effusion>
https://www.cancer.gov/about-cancer/treatment/side-effects/cardiopulmonary-pdq#_132

Malignant Spinal Cord Compression

- Etiology: Primary invasion, Metastatic lesions, Pathologic fracture
- Back pain, focal neurologic deficits
- Associated with breast, lung, prostate, and kidney cancer, lymphoma and multiple myeloma
- Acute neurologic findings requires urgent MRI evaluation
- Multiple grading systems, symptom (Frankel) and imaging based (ESCC)
- Treatment: Dexamethasone 10-16mg IV, Chemotherapy/Radiation/Surgery depending on tumor type

Ropper AE, Ropper AH. N Engl J Med 376:1358-1369
<https://www.nice.org.uk/guidance/rg7/chapter/1-Guidance-the-patient's-experience-of-misc>
<https://www.mdanderson.org/content/dam/indiana/documents/for-physicians/algorithm/clinical-management/clin-management-spinal-cord-compression-web-algorithm.pdf>

Superior Vena Cava (SVC) Syndrome

- Blockage of thin walled SVC
 - Generally malignancy: Lung Cancer, Non-Hodgkin's Lymphoma
 - Other causes: Catheter associated thrombosis, infection, thymoma, autoimmune disorders
- Swelling of the face, neck, arms, neck (edema including pleural and cerebral)
- Grading based on symptoms/involvement of azygous vein.
- Treatment dependent on etiology: Head of bed elevated, Airway management, Steroids, Chemotherapy, Radiation therapy, Stenting, bypass, Thrombolysis

https://www.cancer.gov/about-cancer/treatment/side-effects/cardiopulmonary-pdq#_132

Tumor Hemorrhage

- Management dependent on location and severity
- Due to malignancy or treatment adverse effects
- Assess for anticoagulation and reverse as appropriate
- Co-management with appropriate consulting service

• In a sample of 555 patients on Immune Checkpoint Inhibitors: Clinically significant bleeding and thrombocytopenia at 3 months of treatment were identified in 21% and 7%.

Kondziolka D et al. J Neurosurg. 1987 Dec;67(6):852-7.
Kawan T, et al. Journal of Clinical Oncology. 2020;38, no. 15, suppl.

Tumor Lysis Syndrome

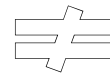
- Tends to occur in rapidly dividing tumors.
- Rapid release of potassium, phosphorous, nucleic acids, and cytokines.
- Laboratory definition: ≥2 abnormal serum values or a 25% change in value of uric acid, potassium, phosphorous, and calcium.
- Treatment: fluids, allopurinol, rasburicase, serial electrolyte monitoring, dialysis
 - no role for urine alkalinization

Cairo et al. Br J Haematol. 2010 May;149(4):578-86.
Coffler et al. J Clin Oncol. 2008 Jun 1;26(16):2757-78.

Current Deficits

Gaps in Current Curriculum
Immunotherapy Treatments and Associated Side Effects
Symptom and side effect management in Cancer Patients
Surgical Procedures and Complications in Patients with Cancer
Effects of Oncology Treatment on Common Emergency Presentations
Need for Emergent Oncological Treatment for the Newly Diagnosed Cancer Patient with Cancer
Gaps in Research Efforts
Care Utilization Across the Age Continuum and Rural/Urban Divide
Risk Stratification
Diagnostic Pathways
Implementation Science Barriers to Oncology Evidence-Based Medicine
Social Determinant of Health Affecting Acute Presentation

Immunotherapy



Chemotherapy

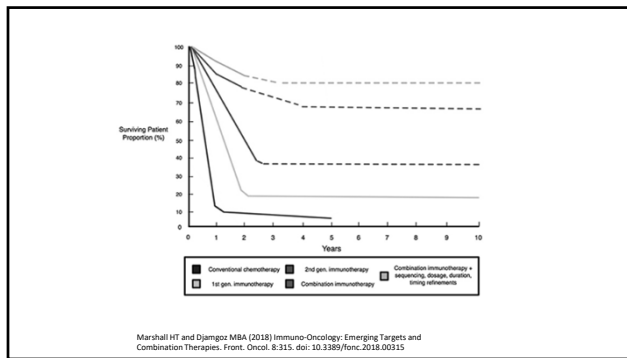
Immune Checkpoint Inhibitors (ICI)

Chimeric Antigen Receptor T-cell Therapy (CAR-T)

Other Major Classes of Immunotherapy:

- Oncologic Vaccines
- Cytokines
- Viral Therapy

Author: Varvara Petrova, Margherita Annicchiarico-Petruzzelli, Gerry Melino & Ivano Amelio (CC BY 4.0)
https://upload.wikimedia.org/wikipedia/commons/archive/b/6/2018061120191821CAR_T-cell_Therapy.jpg



Research Letter | Oncology

March 9, 2020

Estimation of the Percentage of US Patients With Cancer Who Are Eligible for Immune Checkpoint Inhibitor Drugs

Alyson Haslam, PhD^{1,2}; Jennifer Gill, MS¹; Vinay Prasad, MD, MPH^{1,3,4}

Proportion of US patients with cancer were eligible for immune checkpoint inhibitor therapy 1.5% (2011) --> 36% (2019)

Immune Related Adverse Events (irAEs)

- All organ systems are potentially affected.
- Presentation is often delayed weeks, months and even years later.

- Eyes: Uveitis, Conjunctivitis
- Endocrine: Hypo/hyperthyroidism, hypopituitarism, hypophysitis, adrenal insufficiency
- Cardiovascular: Myocarditis, Pericarditis, Vasculitis
- Gastrointestinal: Colitis
- Musculoskeletal: Arthritis, Dermatomyositis
- Neurologic: Neuropathy, Myelopathy, Encephalitis, Myasthenia
- Respiratory: Pneumonitis, Pleuritis
- Liver: Hepatitis
- Renal: Nephritis
- Dermatologic: Rash, Vitiligo, Rash

Patel et al. Expert Rev Mol Diagn. 2018 Mar;18(3):297-305.
 Haanen et al. Annals of Oncology 28 (Supplement 4): 1119-1142, 2017

Common Terminology for Adverse Events (CTCAE)

Introduction
The NCI Common Terminology Criteria for Adverse Events is a descriptive terminology which can be utilized for adverse event (AE) reporting. A grading (severity) scale is provided for each AE term.

SOX
System Organ Class (SOC), the highest level of the MedDRA hierarchy, is identified by anatomical or physiological systems, etiology, or organ(s) (e.g., SOC: Investigations for laboratory test results). CTCAE terms are grouped by MedDRA Primary SOCs. Within each SOC, AEs are listed and accompanied by descriptions of severity (Grade).

CTCAE Terms
An Adverse Event (AE) is any unfavorable and unintended sign (including an abnormal laboratory finding), symptom, or disease temporarily associated with the use of a medical treatment or procedure that may or may not be considered related to the medical treatment or procedure. An AE is a term that is a unique representation of a specific event used for medical documentation and scientific analysis. Each CTCAE v4.0 term is a MedDRA LLT (lowest level term).

Grade
Grade refers to the severity of the AE. The CTCAE displays Grades 1 through 5 with unique clinical descriptions of severity for each AE based on this general guideline:
Grade 1 Mild, asymptomatic or mild symptoms; clinical or diagnostic observations only; intervention not indicated.
Grade 2 Moderate, minimal, local or noninvasive intervention indicated; limiting age-appropriate instrumental AEs.**
Grade 3 Severe or medically significant but not immediately life-threatening; hospitalization or prolongation of hospitalization indicated; disabling; limiting self care AEs.**
Grade 4 Life-threatening consequence; urgent intervention indicated.
Grade 5 Death related to AE.
 A semi colon indicates "or" within the description of the grade.
 A single dash () indicates a Grade is not available. Not all grades are appropriate for all AEs. Therefore, lower AEs are listed with lower than the option for Grade selection.

Grade 5
Grade 5 (Death) is not appropriate for some AEs and therefore is not an option.
Definitions
A brief definition is provided to clarify the meaning of each AE term. A single dash () indicates a definition is not available.
Navigational Notes
A navigational note is used to assist the reporter in choosing a correct AE. It may list other AEs that should be considered in addition to the grade of the AE in question. A single dash () indicates a Navigational Note has not been defined for the AE term.
Activities of Daily Living (ADL)
"Instrumental ADL" refers to preparing meals, shopping for groceries or clothes, using the telephone, managing money, etc.
 **Self care AEs refer to bathing, dressing and undressing, feeding self, using the toilet, taking medications, and not bedridden.

*CTCAE v4.0 incorporates certain elements of the MedDRA terminology. For further details on the MedDRA NCI link see the <https://www.meddra.org>
<https://www.cancer.gov/procotool/development/ctcaev4/ctcaev4-quick-reference-t47.pdf>

Journal for Immunotherapy of Cancer

JOURNAL OF CLINICAL ONCOLOGY ABCO SPECIAL ARTICLE

Position et al. Journal for Immunotherapy of Cancer 2019;19:1-10
 DOI:10.1093/jco/itaa017

POSITION ARTICLE AND GUIDELINES Open Access

Managing toxicities associated with immune checkpoint inhibitors: consensus recommendations from the Society for Immunotherapy of Cancer (SITC) Toxicity Management Working Group

I. Puzanov^{1,2}, A. Dab³, K. Abdelrah⁴, C. D. Bingham^{5,6}, C. Bologn⁷, R. Dab⁷, L. Hom⁸, J. S. Kim⁹, M. E. Lacouture¹⁰, M. R. Ladlow¹¹, D. Lim¹², C. Chatur¹³, V. Shann¹⁴, E. Shama¹⁵, A. W. Ska¹⁶, D. Sondel¹⁷, M. E. Suarez-Villa¹⁸, Y. Wang¹⁹, K. Wiley²⁰, H. L. Kaufman²¹, M. S. Ernst²² and on behalf of the Society for Immunotherapy of Cancer Toxicity Management Working Group

ESMO European Society for Medical Oncology

CLINICAL PRACTICE GUIDELINES

Management of Immunotherapy-Related Toxicities, Version 1.2019

John A. Thompson, MD¹, Ryan J. Schwartz, MD², Julie Brarney, MD, PhD³, Stephen Andrew, MD, PhD, AMP, BC⁴, Philippe Armand, MD, PhD⁵, Shalender Bhatia, MD⁶, Liang E. Stauder, MD, PhD⁷, Louise Cook, MD, PhD⁸, Manon Dreven, MD, PhD⁹, David Durrant, MD¹⁰, Marc S. Ernst, MD¹¹, Matthew Fogarty, MD¹², Bruce Franklin, MD¹³, Christopher J. Hudis, MD¹⁴, Marc Leshem, MD¹⁵, Frederick Long, MD¹⁶, Heather Lanning, MD¹⁷, Frank A. Rabenold, MD¹⁸, Jonathan Sznol, MD¹⁹, Anthony J. Ciaramita, MD, PhD²⁰, Orlan Okoroji, MD²¹, Scott F. Piant, MD²², Lori Fuilly, MD²³, Mohit Kohli, MD²⁴, Bianca Santoro, MD, PhD²⁵, Scott Slatkin, MD, PhD²⁶, Jeffrey A. Sparano, MD²⁷, Marlene Weikel, MD²⁸, Gregory Wang, MD, PhD²⁹, Alper Johnsen-Chiu, MD³⁰, and Jillian L. Swanson, PhD³¹

Cytokine Release Syndrome (CRS)

- Presents from mild to severe symptoms
 - fatigue → hypotensive shock and respiratory failure.
- Treatment: Supportive care as necessary
- Grading based on need for supportive measures

Lee et al. Biol Blood Marrow Transplant. 2019 Apr;25(4):625-638.
<https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/can-1-cell-hl.html>

Immune Effector Cell-Associated Neurotoxicity syndrome (ICANS)

- Symptoms range from non specific neurologic symptoms (Fatigue) to Seizures, Coma and Death 2/2 cerebral edema
- Graded by alterations to mental status
- Onset typically 3-10 days after treatment
- Evaluation: Altered Mental Status evaluation + LP + MRI
- Treatment: Supportive care seizure prophylaxis ± tocilizumab ± steroids

Lee et al. Biol Blood Marrow Transplant. 2019 Apr;25(4):625-638.
<https://www.cancer.org/treatment/treatments-and-side-effects/treatment-types/immunotherapy/can-1-cell-hl.html>

Care Coordination – Wrap Around Care

- irAE diagnosis is a diagnosis of exclusion dependent on obtaining an accurate history (integration of medical record)
- Clear communication/coordination with the primary oncologist
- Immunotherapy Wallet Cards
- Emergency Physician is part of the Oncology Team
- Need for adoption/endorsement of Oncology Guidelines by Non-Oncology Organizations

Bischof et al. Ann Emerg Med. 2019 Jan;73(1):88-90

Joint Models of Acute Care

- Nurse Navigation extending from the Oncology Clinic/Ward to the ED
 - When surveyed, 91% of participants at an oncology navigation conference reported that navigation services in the ED would be either moderately or very helpful.
- Hybrid Care Sites
 - Nurse Triage Line for acute care in Cancer Hospital Infusion Center versus Emergency Department
 - The James Immediate Care Center
 - Integrated Oncology Pods
 - Clear Referral Patterns – Diagnostic Center

Bischof et al. Support Care Cancer. 2019 Nov;27(11):4359-4362
 Bischof et al. Support Care Cancer. 2022 Jun 13;7; Galante et al. Emerg Med Clin North Am. 2018 Aug;36(3):631-636.
<https://cancer.osu.edu/blog/patients-finding-fast-relief-at-the-james-immediate-care-center>
<https://cancer.osu.edu/for-patients-and-caregivers/learn-about-cancers-and-treatments/specialized-treatment-clinics-and-centers/cancer-diagnostic-center>

Format: Abstract -

Send to:

Ann Emerg Med. 1984 Sep;13(9 Pt 1):723-30.

Emergency evaluation of the cancer patient.

KATA S. Tintinalli, MD

Abstract

The oncology patient can experience medical or surgical emergencies as a result of effects of the primary tumor, metastases, or systemic

“Emergencies unrelated to the primary oncologic diagnosis,..., may occur. For this reason routine emergency protocols and diagnostic procedures should be followed in the treatment of oncology patients.”

[Indexed for MEDLINE]

