Disclosures

Carma Erickson-Hurt has no real or perceived conflicts of interest that relate to this presentation.

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Objectives

1. Define disease progression of cancer
2. Identify cancer treatment modalities
3. Discuss major cancer diagnosis
4. Discuss common disease conditions requiring palliative care
Cancer

• Epidemiology
  • Global cancer statistics
  • National cancer statistics
  • Cancer mortality

• Pathophysiology
  • TNM staging system
    • T-size and extent of primary tumor
    • N-presence or absence of lymph node involvement
    • M-presence or absence of distant metastasis
  • Stages 0-IV

Cancer: Process of Disease Progression

• Invasion
  • Cells divide and spread

• Angiogenesis
  • Generation of blood vessels by the tumor site

• Metastasis
  • Direct invasion into an organ
  • Seeding within a body cavity
  • Spread through lymphatic system
  • Dissemination through capillaries and veins

<table>
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<th>Cancer type</th>
<th>Adrenal gland</th>
<th>Bone</th>
<th>Brain</th>
<th>Liver</th>
<th>Lung</th>
<th>Other lung</th>
<th>Peritoneum</th>
<th>Skin / Muscle</th>
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</table>
Cancer: Genetics

Hereditary cancer syndromes

Features of hereditary cancers

• Ethical and social issues surrounding genetic testing
  • Autonomy
  • Survivor guilt
  • Transmitter guilt
  • Anxiety
  • Stigmatization
  • Potential for unethical practices
  • Payor source discrimination

Cancer: Treatment

• Types of treatment
  • Curative
  • Adjuvant
  • Neoadjuvant
  • Palliative

Cancer: Treatment Modalities

• Surgery
  • Used for prevention, diagnosis, staging, curative or palliative
  • Restorative surgery
  • Palliative surgery

• Radiation
  • Teletherapy
  • Brachytherapy
  • Curative
  • Disease control
  • Palliation
  • Prophylactic
  • Side effects
Cancer: Chemotherapy

- Combination Therapies
- Modes of Administration
- Side effects
  - Stomatitis
  - Alopecia
  - Myelosuppression
  - Nausea, anorexia
  - Diarrhea
  - Fatigue
- Long Term Side Effects
  - Cardiotoxicity
  - Neurotoxicity
  - Pulmonary toxicity
  - Hepatotoxicity
  - Nephrotoxicity

Cancer

- Complementary and alternative therapies (CAM)
  - Mind-body medicine
  - Biologically based therapy
  - Manipulative and body based methods
  - Energy therapy
  - Acupuncture
  - Spiritual therapy

Cancer: Prognostication

- Clinical indications of poor prognosis
  - Poor performance status
  - Malignant hypercalcemia
  - Malignant pericardial effusion
  - Carcinomatous meningitis
  - Multiple brain metastasis
  - Malignant ascites, malignant pleural effusion
  - Malignant bowel obstruction
  - Hemorrhage, Disseminated Intravascular Coagulation (DIC)
  - Spinal cord compression
  - Superior vena cava syndrome
Major Cancer Diagnoses

- Lung Cancer
  - 5 year survival 16%
  - Sites of metastasis
  - Risk factors
  - Associated symptoms
  - Treatment

- Breast Cancer
  - Risk factors
  - Prognosis
  - Sites of metastasis
  - Associated symptoms

Major Cancer Diagnoses

- Gastrointestinal
  - Pancreatic
  - Colorectal
  - Gastric (stomach)
  - Liver
  - Esophageal

- Genitourinary
  - Prostate
  - Bladder
  - Renal

Major Cancer Diagnoses

- Gynecological
  - Cervical
  - Ovarian
  - Endometrial

- Hematological Malignancies
  - Leukemia
  - Lymphoma
  - Multiple myeloma
Major Cancer Diagnoses

• Head and Neck
• Malignant Melanoma
• Brain tumors

Oncologic Emergencies

• Spinal Cord Compression
  • Vertebral masses from breast, lung or prostate
  • Back pain presenting symptom
  • Treatment (dexamethasone, radiation)

• Syndrome of Inappropriate Secretion of Antidiuretic Hormone (SIADH)
  • With small cell lung cancer
  • Symptoms (hyponatremia)
  • Treatment

• Cardiac Tamponade
  • Excess fluid in pericardial sac
  • Symptoms
  • Treatment

• Superior Vena Cava Syndrome
  • Obstruction of superior vena cava from tumor
  • Symptoms (facial/neck swelling, dyspnea, cough)
  • Treatment (radiation, chemotherapy, thrombolytic, stent)
Oncologic Emergencies

- Disseminated Intravascular Coagulation (DIC)
  - Overstimulation of coagulation then bleeding
  - Symptoms
  - Treatment
  - Symptoms
  - Treatment

- Tumor Lysis Syndrome
  - Metabolic response to tumor cells being rapidly killed
  - Hyperuricemia, hyperkalemia, hyperphosphatemia, hypocalcemia
  - Symptoms
  - Treatment (prevention)

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Cancer

![Cancer Diagram]

Quality of Life Issues
End of Life Considerations
Treatment Decisions
Symptoms at End of Life

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Sample Question

- You are called to the home of a patient with lung cancer who has the following signs and symptoms: headache, facial edema, hoarseness, dyspnea, and edematous right arm. What is most likely happening with this patient?

A. Pleural effusion
B. Cardiac tamponade
C. Syndrome of inappropriate anti-diuretic hormone (SIADH)
D. Superior vena cava syndrome
Cardiac Conditions

- Pathophysiology

- Systolic dysfunction
  - Left ventricular, inability to maintain adequate cardiac output
  - Signs and symptoms

- Diastolic dysfunction
  - Right heart failure
  - Signs and symptoms

Palliative Care in Heart Disease

- Support quality of life and treatment goals
- Prognostication
  - Table 3-2. Stages and Classes of Heart Failure
- ACC/AHA Stages in the Development of Heart Failure
  - American College of Cardiology (ACC)
  - American Heart Association (AHA)
- NYHA Classification of Heart Failure
  - New York Heart Association (NYHA)

Palliative Care in Heart Disease

- Maximizing quality of life by prolonging survival, controlling symptoms, and promoting self care
- Pharmacological
- Nonpharmacological
- Oxygen supplementation
- Optimal management of comorbidities
- Surgical procedures
Hospice Eligibility in Heart Disease

- Prognostication in heart disease is complicated and focused on patients’ goals of care
- **Should be present:**
  1. Is or has been treated for heart disease and is not candidate or refused surgical procedure
  2. Classified NYHA class IV, ejection fraction <20%
- Supporting documentation: treatment resistant arrhythmias, history of cardiac arrest, unexplained syncope, brain embolism of cardiac origin, HIV disease

Palliative Care in Heart Disease

- Implantable devices
  - Pacemakers
  - Automatic implantable cardioverter defibrillator (AICD)

Neurological Conditions

- Strokes
- Pathophysiology
- Acute and chronic signs and symptoms
- Palliative care
- Medical management
Hospice Eligibility for Stroke

1. Karnofsky or PPS 40% or less
2. Inability to maintain hydration and caloric intake with one of the following:
   • Weight loss
   • Serum albumin
   • Pulmonary aspiration
   • Calorie counts
   • Dysphagia

Hospice Eligibility for Coma (any etiology)

Comatose patients with any 3 of the following on day 3 of coma:

- Abnormal brain stem response
- Absent verbal response
- Absent withdrawal response to pain
- Serum creatinine >1.5 mg/dl

Documentation to Support Hospice Eligibility for Stroke and Coma

Medical complications in the context of progressive clinical decline, within the previous 12 months

Diagnostic imaging factors to support poor prognosis in stroke include hemorrhagic and thrombotic/embolic stroke

Table 3-5. Hospice Eligibility Criteria for Stroke and Coma
Core Curriculum for the Hospice and Palliative Registered Nurse, 4th ed. 2015.
### Neurodegenerative Conditions

<table>
<thead>
<tr>
<th>Dementias</th>
<th>Pathophysiology</th>
<th>Palliative care</th>
<th>Treatment</th>
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<tbody>
<tr>
<td>• Symptom Management</td>
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<tr>
<td>• Pain</td>
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<tr>
<td>• Constipation</td>
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<tr>
<td>• Behavior</td>
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<td></td>
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<tr>
<td>• Non-pharmacologic treatment</td>
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</table>

### Hospice Eligibility for Dementia Due to Alzheimer’s Disease

- All of the following:
  - Stage 7 or beyond FAST score
  - Unable to ambulate, dress, bathe without assistance
  - Urinary/fecal incontinence
  - No consistently meaningful verbal communication

- At least one of the following in past 12 months:
  - Aspiration pneumonia
  - Pyelonephritis or other
  - Septicemia
  - Decubitus ulcers
  - Fever
  - Inability to maintain sufficient intake

### Neurodegenerative Conditions

<table>
<thead>
<tr>
<th>Parkinson’s disease</th>
<th>Amyotrophic Lateral Sclerosis (ALS)</th>
<th>Multiple Sclerosis (MS)</th>
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</thead>
<tbody>
<tr>
<td>• Palliative Care</td>
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<td></td>
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<tr>
<td>• Symptom management</td>
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<tr>
<td>• Caregiver needs</td>
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<tr>
<td>• Pharmacologic treatments</td>
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<tr>
<td>• Nonpharmacologic treatments</td>
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</tbody>
</table>
Hospice Eligibility

Difficult to determine for neurodegenerative diseases
Rapid progression of symptoms with decline
(Karnofsky and PPS 50% or less)
Impaired breathing
Difficulty achieving adequate nutrition
Infections

ALS Hospice Eligibility

• General considerations
• Table 3-7. Hospice Eligibility Criteria for Amyotrophic Lateral Sclerosis
• Core Curriculum for the Hospice and Palliative Registered Nurse, 4th ed. 2015.
• Criteria (considered terminal stage when meet criteria 1, 2 or 3)
1. Patient should demonstrate critically impaired breathing capacity
2. Patient should demonstrate both rapid progression of ALS and critical nutritional impairment
3. Patient should demonstrate both rapid progression of ALS and life-threatening complications

Pulmonary Conditions

• Pathophysiology
  • Obstructive lung disease
  • Restrictive lung disease

Palliative care
Pharmacological treatment
Nonpharmacological treatment
Hospice Eligibility for Pulmonary Disease

- Criteria (1 and 2 should be present)
  1. Severe chronic lung disease as documented by disabling dyspnea at rest and progression of disease
  2. Hypoxemia at rest on room air

  - Supporting documentation
    - Right heart failure secondary to pulmonary disease
    - Unintentional progressive weight loss
    - Resting tachycardia >100/min.

Renal Conditions

- Pathophysiology
  - Acute kidney injury (AKI)
  - Chronic renal failure (CRF)

- Palliative care
  - Disease specific management
  - Symptom management

Hospice Eligibility for Renal Disease

- Acute and Chronic renal failure (1 and either 2 or 3 present)
  1. Not seeking dialysis/transplant
  2. Creatinine clearance <10cc/min (<15cc/min for diabetics) or <15cc/min (<20cc/min for diabetics) with CHF
  3. Serum creatinine >8.0mg/dl (>6.0mg/dl for diabetics)

- Comorbid conditions for supporting documentation different for acute and chronic renal failure
Diabetes

• Pathophysiology
• Palliative care
• Blood glucose monitoring

Table 3-10. General Guidelines for Palliative Diabetic Care

<table>
<thead>
<tr>
<th>Level</th>
<th>Finger-Stick Glucose Monitoring</th>
<th>Insulin &amp; Oral Hypoglycemics</th>
<th>Diet</th>
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</thead>
<tbody>
<tr>
<td>Active co-morbid disease with stable diabetes</td>
<td></td>
<td></td>
<td>Measure-based diet with decreased highly concentrated carbohydrates</td>
</tr>
<tr>
<td>Type 1: Hb A\textsubscript{1C} usually not needed</td>
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<tr>
<td>Type 2: only in specific situation e.g., not able report symptoms of hyper/hypoglycemia</td>
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<tr>
<td>Type 2: only in specific situation e.g., not able report symptoms of hyper/hypoglycemia</td>
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<tr>
<td>Relatively stable diabetes with impending death or organ/system failure</td>
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<tr>
<td>Type 1: only when a decision about management of diabetes is needed</td>
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<tr>
<td>Type 2: generally can be eliminated</td>
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<tr>
<td>Actively dying</td>
<td>Discontinue</td>
<td>Stop insulin and oral hypoglycemics</td>
<td>Comfort only</td>
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Diabetes Symptom Treatment

• Hypoglycemia
  • Immediate care
  • Prevention

• Hyperglycemia
  • Symptoms
  • Risks of hyperglycemia
  • Assess for decreasing activity
  • Assess for drugs which may induce
Liver Failure

<table>
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<th>Chronic liver disease</th>
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<td>Signs and symptoms</td>
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Hospice Eligibility for Liver Disease

- **Terminal stage (1 & 2 should be present)**
  1. Patient should show PT prolonged more than 5 seconds over control or INR >1.5
  2. ESLD present and at least one of the following (ascites, bacterial peritonitis, hepatorenal syndrome, hepatic encephalopathy)

- **Documentation of other factors to support eligibility**
  - Table 3-11: Hospice Eligibility Criteria for Liver Disease

Sample Question

- Ascites is a common finding of which end stage disease?
  - A. Renal
  - B. Hepatic
  - C. Respiratory
  - D. Coronary
HIV/AIDS

HIV infection
Pathophysiology
Diagnosis of late stage HIV (AIDS)

• Palliative care
• Treatment
• Disease specific treatment
• Goals of care
• Symptom management

Hospice Eligibility for HIV/AIDS

• Terminal stage (1 & 2 should be present)
  1. CD4 count <25 cells/ml or persistent viral load >100,000 copies/ml plus one of the following (CNS lymphoma, wasting, MAC, leukoencephalopathy, lymphoma, Kaposi’s sarcoma, renal failure, cryptosporidium infection, toxoplasmosis)
  2. Decreased performance status Karnofsky <50%

• Documentation of other factors to support eligibility
  • Table 3-12: Hospice Eligibility Criteria for HIV
  • Core Curriculum for the Hospice and Palliative Registered Nurse, 4th ed. 2015.

Sample Question

• The terminal stage of HIV is characterized by a CD4 count of:
  A. >100,000
  B. <500
  C. <200
  D. <25