

**Treatment and Care of
Cancer Patients: Colorectal
Cancer, Pancreatic
Cancer, Lymphoma, and
Bone Metastasis**

**Satellite Conference and Live Webcast
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Outline

- **Cancer basics**
 - **General information**
 - **Colorectal, pancreatic, lymphoma, bone metastasis**
 - **Causes / contributors, signs and symptoms**
 - **Patient challenges**

Outline

- **Treatment options**
 - **Surgery, radiation, drug therapy**
- **Drug therapy for focus cancers**
 - **Chemo, biologics, oral oncolytics**
- **Supportive care**
 - **Therapeutic modalities**
- **Questions and answers**

Cancer Basics

- **What is cancer?**
 - **Not ONE disease**
 - **A collection of MANY diseases**
 - **Cancers are genetic but not typically inherited**
 - **ALL cancers start with abnormal cells that grow out of control**
 - **Cancer named from its originating site**

Cancer Basics

- **Who has cancer?**
 - **Nearly 12 million Americans with a history of cancer**
 - **Over 1.5 million NEW cases expected in 2012**
 - **Over 26,000 NEW cases expected in Alabama in 2012**

Cancer Basics

- **What are some of the known 'causes' of cancer?**
 - Environmental exposures
 - Genetic susceptibility
 - Age

Cancer Basics

- **GENERAL RISK factors for cancer**
 - Environmental
 - Poor diet
 - Sedentary lifestyle
 - Obesity
 - UV light

Cancer Basics

- Environmental
 - Exposure to chemicals
 - Tobacco; alcohol
 - Pollution
 - At work or at home

Cancer Basics

- Genetic
 - Inherited
 - Only ~ 5%
 - i.e. NOT the norm
 - Acquired
 - From environmental risks

Cancer Basics

- **Signs and symptoms**
 - Fatigue; difficulty sleeping
 - Unexplained and rapid weight loss
 - Pain
 - Hoarseness; a nagging cough
 - Bloating; indigestion
 - Changes in bowel / bladder habits
 - Blood or abnormal discharge

Cancer Basics

- **May have any or ALL of the symptoms and NOT have cancer!**

Cancer Basics

- How is cancer diagnosed?
 - Signs / symptoms
 - Clinical laboratory tests
 - Imaging scans
 - CT / MRI / PET, etc.
 - Biomarkers
 - Biopsies

Program Focus

- Solid tumor cancers
 - Colorectal
 - Pancreatic
- Lymphomas
- Bone metastasis

Colorectal Cancer

- General
 - Highly treatable and often curable when localized to the bowel
 - Surgery is the primary form of TX
 - Cure in approximately 50% of the patients

Colorectal Cancer

- Recurrence following surgery is a major problem
 - Often the ultimate cause of death

Colorectal Cancer

- Signs and symptoms
 - N / V / D
 - Blood in stool
 - Indigestion / bloating / abdominal pain
 - Rapid / unexplained weight loss
 - Change in bowel habits

Colorectal Cancer

- Risk factors
 - Hereditary conditions
 - 10% - 15% of CRC
 - Familial polyposis
 - Lynch syndrome
 - Ulcerative colitis or crohn colitis

Colorectal Cancer

– More common conditions with an increased risk:

- First-degree fhx of CRC or adenomas
- Phx of ovarian, endometrial, or breast cancer

Colorectal Cancer

- High-risk groups account for only 23% of all colorectal cancers

Colorectal Cancer

- Stage (AJCC; TNM Staging Criteria) and General Treatment Options

– Stage 0, I , or II CRC

- Surgery

– Stage III Colon Cancer

- Surgery + Adjuvant CMT

Colorectal Cancer

– Stage IV Colon Cancer

- Liver Metastasis

– Surgery; Neoadjuvant Chemotherapy (CMT); Local radioablation

– Adjuvant CMT

– Intra-arterial CMT

Colorectal Cancer

- Recurrent Colon Cancer

– Surgery

– Chemotherapy and targeted therapy

– Second-line CMT

Colorectal Cancer

- CMT treatments

– Combination cytotoxic therapy

- FOLFOX

- FOLFIRI

- Targeted treatments

– Anti-VEGF

- Bevacizumab / aflibercept

Colorectal Cancer

- EGFR inhibitors
 - Cetuximab / panitumumab
- Kinase inhibition
 - Regorafenib

Colorectal Cancer

- Patient care challenges
 - Home infusion pump issues
 - Colostomy
 - Supportive care
 - N / V / D
 - Depression / anxiety
 - Pain
 - Cytopenias

Program Focus

- Solid tumor cancers
 - Colorectal
 - Pancreatic
- Lymphomas
- Bone metastasis

Pancreatic Cancer

- Increased incidence
 - Still only ~ 2% of all cancer diagnoses
 - ~45,000 new cases for 2013
 - POORLY understood etiology

Pancreatic Cancer

- HIGH mortality rate
 - 4th leading cause of cancer death in USA
 - ~38,500 deaths for 2013

Pancreatic Cancer

- Poor response to chemotherapy, radiation and surgery
 - 5 YR (OS) survival ~ 6% for all cases
 - Stage I: tumor is small and localized to the pancreas
 - Fewer than 20% of pancreatic cancer cases

Pancreatic Cancer

- Best OS survival chance (18-24%)
- Advanced pancreatic cancer (stage III or IV), the OS rate is less than 1%
- Most patients expire within 1 year

Pancreatic Cancer

- S/SX are vague
 - Fatigue and weakness
 - Digestive issues
 - Abdominal / back pain
 - Unexplained weight loss / loss of appetite
 - Jaundice
- Advanced cases

Pancreatic Cancer

- Palliation of symptoms with conventional treatment (surgery, radiation)
 - Biliary decompression, relief of gastric obstruction, and pain control

Pancreatic Cancer

- May improve the QOL with no effect on OS
- Most patients expire within 1 year

Pancreatic Cancer

- Chemotherapy
 - Gemcitabine alone or in combination
 - Platinum therapy
 - Nab-paclitaxel

Pancreatic Cancer

- 5 FU based regimens (FOLFIRINOX)
- Erlotinib
- CLINICAL TRIALS!!!!

Pancreatic Cancer

- **Patient care challenges**
 - Pain
 - N / V / D
 - Depression
 - Cytopenias

Program Focus

- **Solid tumor cancers**
 - Colorectal
 - Pancreatic
- **Lymphomas**
- **Bone metastasis**

Lymphomas

- **A collection of MANY types / subtypes of blood cancers that develop in the lymphatic system**
 - Hodgkin Lymphoma
 - Non-Hodgkin Lymphoma (NHL)
 - Indolent and Aggressive
 - B-cell, T-cell, NK-cell subtypes

Lymphomas

- **Hodgkin Lymphoma**
 - **Characteristics that distinguish it from other lymphomas**
 - **Reed-Sternberg cells**
 - Large, cancerous cells

Lymphomas

- **One of the most curable forms of cancer**
 - 75% - 90% cure rate
- **Usually diagnosed in adolescents / young adults or in older adults**

Lymphomas

- **Hodgkin Lymphoma S/Sx**
 - **PAINLESS** enlargement of lymph nodes
 - **Usually in upper body**
 - Splenomegaly or other immune tissue enlargement
 - Fever, weight loss, fatigue, and / or night sweats

Lymphomas

- Hodgkin Lymphoma
 - Modified Ann Arbor Staging Criteria
 - Categorizes by extent of disease and symptoms

Lymphomas

- Stage IA or IIA, non-bulky disease (early stage)
 - TX with CMT, combination therapy, or radiation alone
- Stage III or IV, bulky disease, or the presence of symptoms
 - **REQUIRES** combination CMT and often radiation

Lymphomas

- ABVD: doxorubicin + bleomycin + vinblastine + dacarbazine
 - Drug combination of choice

Lymphomas

- Relapse Hodgkin Lymphoma
 - Re-induction with the same or another CMT regimen followed by high-dose CMT and autologous bone marrow or peripheral stem cell or allogeneic bone marrow rescue

Lymphomas

- Hodgkin Lymphoma
 - More than 75% of patients cured
 - 90% for younger patients
 - Hodgkin lymphoma is one of the most curable forms of cancer!
 - USA mortality has fallen more rapidly for adult HL than for any other in the last 50 years!

Lymphomas

- Non Hodgkin Lymphoma (NHL)
 - Heterogeneous collection of lymphoproliferative malignancies
 - Differing patterns of behavior and responses to treatment
 - Usually originates in lymphoid tissues

Lymphomas

- Can spread to other organs
- Much less predictable than Hodgkin lymphoma
 - Disseminates to extra-nodal sites

Lymphomas

- NHL incidence
 - ~530,000 living with NHL in the USA
 - INCREASING
 - More common in men
 - More common in adults over 55

Lymphomas

- Non Hodgkin Lymphoma (NHL)
 - Divided into prognostic groups:
 - Aggressive
 - Indolent

Lymphomas

- Further divided by cell morphology
 - B-cell, T-cell, or NK-cell
 - B-cell morphology: ~ 85% of all NHLs
 - Other: T-cell or NK-cell morphologies

Lymphomas

Aggressive NHL	Indolent NHL
Faster growing	Slow growing
Behave more like a 'cancer'	Behave more like normal cells
More 'curable'	Not 'curable'
60% of all NHL	40% of all NHL

Lymphomas

Aggressive NHL	Indolent NHL
Diffuse large B-cell lymphoma	Follicular lymphoma
Anaplastic large cell lymphoma	Lymphoplasmacytic lymphoma (Waldenström macroglobulinemia)
Burkitt lymphoma	Marginal zone lymphomas
Lymphoblastic lymphoma	Small lymphocytic lymphoma
Mantle cell lymphoma	
Peripheral T-cell lymphoma	
NK-cell lymphoma	

Lymphomas

- **NHL S/Sx**
 - **Most common: PAINLESS** swelling of one or more lymph nodes in the neck, armpit, or groin
 - **Other S/SX**
 - **Fever without an obvious cause**
 - **Drenching sweats, especially at night**

Lymphomas

- **Tiredness / fatigue**
 - **Lack of energy**
- **Loss of appetite**
- **Unexplained weight loss**

Lymphomas

- **NHL initially manifests in an area other than the lymph nodes, symptoms may include:**
 - **Rash**
 - **Bone pain**
 - **Cough**
 - **Chest pain**
 - **Abdominal pain**

Lymphomas

- **Aggressive NHL**
 - **Diffuse large B-cell lymphoma (DLBCL)**
 - **Most common NHL**
 - **~30% of all NHL**
 - **Anaplastic large cell lymphoma**
 - **Burkitt lymphoma**

Lymphomas

- **Lymphoblastic lymphoma**
- **Mantle cell lymphoma**
- **NK-cell lymphoma**
 - **Extra-nodal T-cell**
- **Peripheral T-cell lymphoma**
 - **Difficult to treat**

Lymphoma

- **Aggressive NHL Treatment**
 - **Combination 1st line therapy**
 - **CHOP: cyclophosphamide (Cytoxan®), doxorubicin (hydroxydoxorubicin), vincristine (Oncovin®), prednisone**
 - **Rituximab (Rituxan®)**

Lymphoma

- Radiation Therapy
 - Palliation to a site of disease

Lymphoma

- Relapse Disease
 - Re-treatment with CHOP/R-CHOP
 - High dose CMT with stem cell rescue
 - Autologous (preferred)
 - Allogenic

Lymphomas

Aggressive NHL	Indolent NHL
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Lymphomas

- NHL S/Sx
 - Most common: PAINLESS swelling of one or more lymph nodes in the neck, armpit, or groin
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 - Drenching sweats, especially at night

Lymphomas

- Tiredness / fatigue
 - Lack of energy
- Loss of appetite
- Unexplained weight loss

Lymphomas

- Indolent NHL
 - Follicular B-cell lymphoma
 - 20% of all NHL
 - ~70% of INDOLENT NHL
 - Marginal zone lymphomas
 - Several subtypes

Lymphomas

- Lymphoplasmacytic B-cell lymphoma
 - AKA Waldenström macroglobulinemia
 - RARE: less than 2% of all NHL
- Small Lymphocytic Lymphoma (SLL)
 - Same disease as CLL

Lymphomas

- Indolent NHL TX
 - 1st line treatment
 - Rituximab +/- CMT
 - CHOP; FC; bendamustine
 - Relapse treatment
 - May use the same CMT / Rituximab regimen as initial TX

Lymphomas

- Refractory treatment
 - Determine if transformation has occurred
 - Different CMT
 - High dose CMT + Stem Cell Transplant

Lymphomas

- NHL survival
 - Overall 5 year survival rate = ~60%
 - Aggressive
 - ~50% of patients are cured with 1st line treatment

Lymphomas

- Indolent
 - NOT curable
 - Good prognosis: live with the disease for 10 – 20 years or more

Lymphomas

- Patient care challenges
 - CMT side effects
 - Depression
 - Fatigue
 - Cytopenias

Lymphomas

- Routine FU
 - Regular screening tests / labs to assure disease is / remains in remission

Lymphomas

- Patient care challenges
 - Port (indwelling catheter)
 - Cleaning / maintain patency
 - Infection prevention

Program Focus

- Solid tumor cancers
 - Colorectal
 - Pancreatic
- Lymphomas
- Bone metastasis

Bone Cancer

- Bone Cancer vs. Bone Metastasis
 - Primary Bone Cancer
 - Usually in kids / young adults
 - Ewing sarcoma
 - Osteosarcoma
 - Malignant fibrous histiocytoma
 - Chondrosarcoma

Bone Cancer

- Bone metastasis
 - Spread of another type of cancer (solid tumor) to the bones
 - Breast, Prostate, Lung
 - Solid mass forms in bone
 - PAINFUL!!!!!!!!!!

Bone Metastasis

- Treatment
 - CMT for primary tumor
 - Palliation
 - Radiation Therapy
 - PAIN control
 - Patches
 - Narcotic Analgesics

Bone Metastasis

- **Patient care challenges**
 - Pain control
 - Lethargy

Recap

- **CRC**
 - 50% cured with surgery alone IF caught early!
- **Pancreatic Cancer**
 - POORLY understood
 - POOR survival

Recap

- **Lymphoma**
 - HL: One of most curable cancers
 - NHL: Good prognosis; 60% OS
- **Bone Mets**
 - Palliative care

Types of Cancer Treatments

- **Surgery**
 - Used for diagnosis, treatment, and prevention
 - Stand alone or in combination with other treatments
 - Best chance for a cure
 - Early stages

Types of Cancer Treatments

- **Radiation**
 - Delivery of HIGH doses of radiation (energy) directly to cancer cells to kill the cancer cells, stop their growth, and shrink the tumor
 - Stand alone or in combination with other treatments
 - Palliative care

Types of Cancer Treatments

- **Drug Therapy**
 - Chemotherapy (chemo / CMT)
 - Immunotherapy
 - Monoclonal Antibodies (MAbs)
 - Targeted therapy

Types of Cancer Treatments

- Supportive Care
 - Anti-nausea
 - Blood boosters
 - Pain management
 - Anti-depressants

Types of Cancer Treatments

- Chemotherapy
 - Drugs given IV on a schedule
 - Target “active” cells
 - Cancer and normal (healthy) cells

Types of Cancer Treatments

- Side effects
 - Pain; N / V / D; fatigue; hair loss; altered taste; loss of appetite
- Risk of infection
 - Fever; rash; sores

Types of Cancer Treatments

- Immunotherapy
 - Monoclonal antibodies
 - Cancer vaccines
 - Stimulate the immune system to work harder to kill cancer cells
 - Side effects
 - Fever, rash, fatigue, chills, N / V / D, low BP

Types of Cancer Treatments

- Targeted Therapy
 - Disrupts certain processes and signals need for cancer cells to grow and divide
 - Technically a type of chemo!
 - OFTEN are oral medications

Types of Cancer Treatments

- Grouped by the target
 - Enzyme inhibitors
 - e.g. TKIs
 - Cell-death inducers
 - e.g. proteasome inhibitors
 - Blood supply inhibitors
 - e.g. VEGF inhibitors

Types of Cancer Treatments

- Side effects:
 - N / V / D / C; HA; fatigue; fever; chills; rash / skin changes

Types of Cancer Treatments

- Supportive care
 - Drugs that combat the side effects of cancer treatment
 - Pain
 - NV
 - Diarrhea
 - Decrease in blood counts
 - Immune support

Caring for Cancer Patients

- During treatment
 - Eat and eat well!
 - Lots of water
 - Watch for signs of infections:
 - Fever, chills, sores, rash
 - PREVENT pain do NOT chase pain

Caring for Cancer Patients

- PREVENT N / V / D do not wait until it happens
- Depression
- Journal to track side effects
 - ADLs; QOL

Caring for Cancer Patients

- Keep a list of ALL medications (drug, dose, route, frequency)
 - Include vitamins, herbal products, natural products (super juices, supplements)
- Keep away from kids and babies
 - Masks, gloves
- Keep living environment clean

Caring for Cancer Patients

- Assure someone goes to ALL MD visits with the patient
- Assure that the patient does NOT drive on the days of treatment
- Take a list of all medications to EACH MD visit
 - Drug / dose / route / schedule / prescribing doctor

Caring for Cancer Patients

- Include vitamins, herbal therapies, nutritional supplements / juices
- Keep a diary of side effects
- Assure the patient has an oral thermometer

Caring for Cancer Patients

- After treatment
 - Lingering pain
 - Depression
 - Permanent changes
- Survivorship
 - Long-term adjustment
 - Follow-up

Resources

American Cancer Society (ACS)
www.cancer.org/

**National Institutes of Health,
National Cancer Institute (NCI)**
www.cancer.gov/

Resources

Leukemia & Lymphoma Society
www.lls.org/

**American Society of Clinical Oncology;
Patient Information**
www.cancer.net/