بنام هستی بخش جان آفرین

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Common Malignancies

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Objectives:

- Prevalence of Cancers
- Risk Factors
- Treatment strategy
- Monitoring the patients

Neoplastic Disorders:

- **Introduction:**
- **Cancer (neoplasm, tumor, malignancy):**
- **Uncontrolled growth & spread of abnormal cells**
- **Cancer cells: poorly differentiated or immature**
- **Metastases: travel through the blood or lymph (new tumors)**
- **Stimulate the formation of new blood vessels (angiogenesis)**

Prevalence of Various Cancer

Prostate (33%) (28), Gastric	Breast (32%) (28)
Lung (14%) (15), Bladder	Lung (12%) (14)
Colon & rectum (11%) (9)	Colon (11%) (10)
Urinary bladder (6%) (7)	Uterine (6%) (6)
Melanoma of skin (4%) (5)	Thyroid (3) (5)
NHL (4%) (4)	NHL (4%) (4)
Kidney (3%) (4)	Melanoma of skin (3%)
Oral cavity (3%) (3)	Kidney (3) (3)
Leukemia (3%) (3)	Ovary (4%) (3)
Pancreas (2%) (3)	Pancreas (2%) (3)
All other sites (17%)	All other sites (20%)

Cancer death:

- **Lung & bronchus (M/F): 31/15%, (29/26), Gastric**
- **Prostate: 10%** **Breast: 15%**
- **Colorectal: 10%** **11%**
- **Pancreas: 5%** **6%**
- **NHL: 4%** **Ovary: 5%**

Common Malignancies

- **Breast Cancer**
- **Colon Cancer**
- **Bladder cancer**
- **Prostate Cancer**

Breast Cancer:

- Most common in women (26%)
- Greatest Risk: after age > 65
- < 39 yr: < 1%
- Risk factors:
- Early menarche (۱۲<), late menopause (>55)
- Late first pregnancy (>35) greater than no
- Advancing age
- Strong family history

Breast Cancer:

- **Possible risk factors:**
- **Obesity**
- **High fat diet**
- **Long-term use of estrogens**
- **Alcohol**

Screening:

- **Annual mammography screening at age 40 (older recommendation)**
- **Annual mammograms before 50, should be individualized**
- **Largest benefit annual mammogram: ages 50-74**
- **Mammogram After 75: insufficient data**
- ***Annual mammography & MRI at age 30yrs in high risk patients**

Breast Cancer:

- **Treatment:**
- **Surgery**
- **Endocrine therapy for post menopause**
- **Chemotherapy for pre menopause**

Breast Cancer:

- **Endocrine Therapy:**
- **Tamoxifen**
- **Anastrozole, letrozole**
- **Equally effective**
- **Exemestane: irreversible AI (second line)**
- **AIs: more tolerable, few adverse effects:**

  Mild nausea, hot flashes, fatigue
- **Megesterol: third line**

Breast Cancer:

- **Combination chemotherapy:**
- **Doxorubicin: one of the most active agents**
- **Doxorubicin + Cyclophosphamide + Paclitaxel**
- **FAC: 5FU, Doxo, Cyclo**
- **CMF: cyclophosphamide, MTX, 5FU**
- **TAC: Docetaxel, Doxo, Cyclo**

Breast Cancer:

- **Metastatic:**
- **Rarely curable**
- **Trastuzumab + chemotherapy**
- **Trastu.+ paclitaxel, (vinorelbine, docetaxel)**

Breast Cancer:

- **Metastatic:**
- **New drugs:**
- **Lapatinib**
- **Bevacizumab**

Breast Cancer:

- **Bony metastases:**
- **Bisphosphonate**
- **1) Pamidronate (90mg in 2 hrs inf.)**
- **2) Zoledronic acid (4mg in 15 min. inf.)**
- **↓ pain, ↓ hypercalcemia,↓ pathologic fracture**

Colon Cancer:

- Second leading cause of cancer death in the US
- **Risk factors:**
- 1) Family history
- 2) Age > 50
- 3) High fat, low fiber diet
- 4) Obesity
- 5) IBD
- 6) History of polyps

Colon Cancer:

- **Continuous Aspirin or other NSAIDs: may prevent development of colorectal cancer**
- **Celecoxib: ↓ size & number of polyps**
- **Other potential preventive measures:**
- **Calcium supplement, high fiber diet**

Colon Cancer:

- **Screening:**
- **Current recommendations:**
  fecal occult blood testing
- **Depend on risk:**
  sigmoidoscopy or total colonic examination
- **60-90% of metastatic & recurrent colorectal cancer: ↑ CEA or CA-19-9**

Colon Cancer:

- **Prognosis:**
- **In early stage: curable with surgery**
- **Relapses: most important problem after surgery**
- **Peritoneal seeding**
- **Metastasis to the liver: most common site**
- **Lung metastases (without liver): rare**

Colon Cancer:

- ***Adjuvant chemotherapy is recommended for all patients with stage C & high-risk stage B disease***

Colon Cancer:

- **Treatment:**
- **Adjuvant therapy:**
- **Chemotherapy:**
- **1) Single agent**
- **5FU**
- **Irinotecan**
- **Oxaliplatin**
- **Capecitabine**

Colon Cancer:

- 5FU 425mg/m^2+ leukovorin 20mg/m^2 for 5 consecutive days q4wk for 6 mon.

- 6 mon. vs 12 mon: better compliance

Colon Cancer:

- 5FU + Leucovorin for 6 mon.
- Toxicities:
- Leukopenia
- Severe diarrhea
- Stomatitis

Colon Cancer:

- **Comparisons between 5FU regimens:**
- **Contin. Inf vs bolus:**
- ↑response,↑ overall survival, ↑ hand foot synd. With contin. Inf.
- ↑ bone marrow suppression with bolus

Colon Cancer:

- **2) Combination chemotherapy:**
- **FOLFOX: Folini. 5FU. Oxali.**
- **FOLFIRI: Folini. 5FU. Irino.**

Colon Cancer:

- **Follow up care:**
- **History, physical examination**
- **Recurrent Disease:**
- **More than 50%, ↑ CEA level**
- **CEA level q 3mon. For first 3 yrs, then q 6mon. For 2 yrs, then annually**
- **Colonoscopy is repeated annually for several years & every 3-5 years**
- **Chest radiography (metastases)**
- **Abdominal & pelvic CT, LFTs**

Bladder Cancer:

- **Risk Factors:**
- **Age>60yrs**
- **Cigarette smoking**
- **Drugs (cyclophosphamide)**
- **Male gender**
- **Occupational exposure**
- **Chronic UTI**

Bladder Cancer:

- **Clinical presentations:**
- **Microscopic or gross hematuria,**
- **flank pain,**
- **constipation,**
- **lower extremity edema,**
- **bladder irrigation**

Bladder Cancer:

- **Treatment:**
- **Resection: 30-85% recurrence**
- **Intravesical therapy:**
- **Thiotepa**
- **Doxorubicin**
- **Valrubicin: resistant to BCG**
- **Mitomycin**
- **BCG**
- **MITO>BCG>DOXO**

Bladder Cancer:

- Dilute with sterile saline or water (60-75ml)
- For 2hrs in empty bladder
- Initial weekly for 6wk, monthly maintenance
- Up to 12 mon.
- New treatment:
- Intravesical gemcitabine, docetaxel

Bladder Cancer:

- **Side effects:**
- **BCG: dysuria, hematuria, urinary frequency, fever, chills, joint pain**
- **Mito, doxo: chemical cystitis**

Bladder Cancer:

- Metastatic disease:
- In 40%
- Poor prognosis (distant sites)
- Most common sites:
- Lymph nodes
- Liver
- Lung
- Bone

Bladder Cancer:

- **Metastatic disease:**
- **Combination chemotherapy:**
- **M-VAC: MTX, Vinblastin, Doxo, Cisplatin**
- **Cisplatin+ gemcitabine:**
  higher response, fewer neutropenic sepsis, mucositis compared to MVAC

Prostate Cancer:

- **Most common malignancy in adult males**
- **Median age: 66yrs (<40: rare)**
- **Cause: unknown**
- **Highest incidence: African-American men**

Prostate Cancer:

- **Risk factors:**
- **Age**
- **Family history**
- **Textile workers & other industrial chemicals**
- **High fat diets**
- **High level of testosterone**
- **Prostatic hyperplasia**

Prostate Cancer:

- **Screening:**
- **PSA**
- **Not specific for cancer**
- **Routine evaluation of PSA in men > 50 yr has become the standard of care**

Prostate Cancer:

- **PSA:**
- **NOT sensitive screening tool alone**
- **Finasteride,**
- **Prostate manipulation,**
- **Biopsy,**
- **Digital rectal examination→ ↑PSA**

Prostate Cancer:

- **Treatment:**
- **Surgery (radical prostatectomy)**
- **Radiation therapy**
- **Hormonal manipulation**

Prostate Cancer:

- **Treatment (hormonal manipulations):**
- **1) Orchiectomy: ablation of androgen sources**
- **2) Inhibition of testosterone production:**
  LHRH analogs (leuprolide, goserelin)
- **3) Antiandrogens:**
  flutamide, nilutamide, bicalutamide

Prostate Cancer:

- **LHRH analogs:**
- **Testosterone surge: during 10-14d, ↑pain**
- **Add androgen antagonist before or during LHRH analog until 1mon. after**
- **Side effects of long-term use:**
- **Anemia**
- **Fatigue**
- **Osteoporosis**

Prostate Cancer:

- **Leuprolide & gosereline:**
- **Long-act**
- **Q1 or 3-4mon.**
- **Until disease progression?**
- **During life-time?**

Prostate Cancer:

- **Anti androgens:**
- **Sexual function is maintained**
- **Metastatic: alone?**
- **With castration**
- **Combined complete hormonal blockade:**
- **Leuprolide + flutamide OR**
- **Orchiectomy + nilutamide**

Prostate Cancer:

- **Choice of Therapy:**
- **Bilateral orchiectomy**
- **Side effects:**
- **Impotence**
- **Hotflashes**

Prostate Cancer:

- **Adjuvant Therapy:**
- **Bicalutamide: 150mg/d**
- **Side effects: gynecomastia, breast tenderness, GI disturbances, liver function abnormalities**
- **Goserelin acetate: 3.6mg q 28d**

Prostate Cancer:

- **Monitoring Therapy:**
- **1) PSA serial measurements:**

  Less expensive

  More sensitive THAN imaging techniques (CT scan, bone scan)
- **2) Pain control**
- **3) Quality of life**

Prostate Cancer:

- **Second line:**
- **1) Aromatase inhibitors:**
  Aminoglutethimide, 250mg/BID to QID

  Response to therapy after 4-6wk

  Side effects: lethargy, ataxia, rash (self-limited)
- **2) ketoconazole: 400mg q 8hrs**

Prostate Cancer:

- **Ketoconazole:**
- **Inhibit steroids synthesis → physiologic replacement of glucocorticoids IS ESSENTIAL**
- **Side effects:**
- **GI intolerance, Impotence , Gynecomastia**
- **↑LFT (transient)**
- **Skin pigmentation, weakness, lethargy**