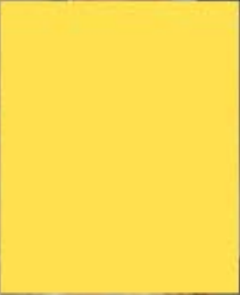




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# A Quick Look at Major Cancers



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## Chronic Myelogenous Leukemia (CML)

- Philadelphia chromosome 9/22 translocation discovered many years ago
- Starts as slow growing leukemia 1-5 years
- Becomes acute untreatable acute leukemia
- Cell surface receptor bcr/AbL protein

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## Chronic Myelogenous Leukemia (CML)

- Cell surface receptor turned on all the time
- Cells grow more rapidly & mutate more easily
- Imatinib developed specifically to turn off protein
- 90% plus go into remission – now up to 10 years
- 3 drugs now available
- Allotransplantation becoming much less common

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## Chronic Lymphocytic Leukemia (CLL)

- Other types of lymphoproliferative diseases most common
- Middle age and older
- Earlier diagnosis than ever
- Lack of apoptosis
- Altered immunity – hypo and hyper
- Lymphoma characteristics
- Very treatable – not currently curable
- 10-15 yrs life span depending on stage at diagnosis

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## Multiple Myeloma

- Clonal disease of plasma cells
- 1% normally in marrow
- Produce full antibodies light and heavy chain
- Disease stay in bone – leukemia very rare
- Anemia, kidney failure, bone pain, infection lead to diagnosis
- 99% are secretors
- IgG, IgA and IgM or light chain only
- IgM call Waldenstroms macroglobulinemia

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## Multiple Myeloma

- Treatments continue to advance
- Now many living 6-8+ years
- Autotransplant routine done - ? Future
- Can follow success of treatment with blood levels
- Amyloidosis related to light chain deposits
- Amyloidosis can or cannot be part of myeloma



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## Lymphoma

- Divided Hodgkin and non Hodgkin lymphoma
- Non Hodgkin divided into B cell (80%+) and T cell
- Many kinds of lymphoma – many specialized cells
- Extranodal lymphoma – any organ – skin, stomach, conjunctiva
- More common over last 50 years
- Wide range from very slow to very fast
- B symptoms are fever, weight loss & night sweats

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## Lymphoma Treatment

- Many options for treatment
- Watchful waiting
- Mild chemotherapy to very heavy
- Antibodies + chemo better
- Radiation for local disease (rare) effective
- Surgery only a diagnostic tool (1 exception)
- PET scans can be very helpful
- CT scans and bone marrow biopsy usually done



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## Lung Cancer

- Worst disease in severity and prevalence
- 90% tobacco – exception make the rule
- Older women non tobacco caused
- Seldom diagnosed at early stage
- Even early stage has a 40% relapse rate
- When symptoms present usually advanced disease
- Divided into non small cell (80%) and small cell
- Travels to adrenal and brain especially but bone and liver also
- Pleural involvement local but really metastatic

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## Lung Cancer – Small Cell

- Very rapid growth and spread – no surgery
- Very responsive to chemotherapy first time
- Limited disease is curable to 10-20%
- Preventative treatment to brain with radiation therapy for limited
- Advances of 1970's and 1980's not advanced
- Rapid regrowth with 12-18 months usual time

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## Lung Cancer – Non Small Cell

- Stage 1 & 2 (limited nodal) surgery
- Stage 3 (locally advanced) chemo + radiation therapy
- Stage 4 chemo or targeted therapy

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## Lung Cancer – Targeted Therapy

- EGFR over expressed 20% of the time
- Non smoking or past smoker Asia women
- Now able to test for EGFR and direct therapy
- Now 3 or 4 targets becoming available
- AKT – only 4% but 80% chemo response
- May finally be making some progress
- Chemo alone w/o targets 30% RR



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# Melanoma

- Arises from benign moles(nevi)
- Skin damage main causative factor
- Incidence and early diagnosis both on the rise
- Prognosis related to stage
- Clark staging based on layers of involved skin
- Breslow simply vertical length – better of two

1 mm or less	95% survival
1-2 mm	80-95%
2-4 mm	60-75%
> 4 mm	50%

- Ulceration worsens prognosis
- Nodal involvement worsens
- Head/neck worse than trunk, worse than extremity

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## Melanoma

- Wide excision treatment of choice - (how wide ?)
- Sentinel node sampling done - ? Value
- Adjuvant treatment with interferon - ? Value
- Metastatic disease – anywhere but especially the brain
- Surgical treatment of some metastases appropriate
- Research into immune stimulation progressing
- Dysplastic nevus syndrome

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## Colon Cancer

- Risk factors hard to define
- Size does not matter
- Staging into muscle, through 1 muscle, distant disease
- Nodes matter – need to sample at least 12
- Adjuvant chemo helps nodes positive
- Liver and abdominal cavity most common sites of mets

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## Rectal Cancer

- Same as colon under microscopy
- 12 cm or less from anus
- Local recurrence much greater than colon cancer
- Role of preop radiation/chemo
- More staging with preop MRI or TRUS
- Local recurrence are truly terrible



