Patients

Lung Cancer Facts

- Lung cancer is the leading cause of cancer death in men & women:
- Each year, more people die of lung cancer than colon, breast and prostate cancers COMBINED!

Lung Cancer Facts

- Lung cancer is the second most common cancer in both men & women
- About 230,000 new cases will be diagnosed in 2014
- About 160,000 people will die from it in 2014, making up 29% of all cancer deaths
  - BUT lung makes up only 14% of all cancers
Lung Cancer Facts

- Smoking is the cause of lung cancer in 90% of men & 80% of women diagnosed
  - If you smoke, you are 23x more likely to develop lung cancer if male and 13x more likely if female
- BUT the majority currently diagnosed do not smoke
  - 50% of lung cancers occur in former smokers
  - 15% of lung cancers occur in non-smokers

Smoking Incidence - Effect

Lung Cancer Risk
One big problem...

- Over ½ of lung cancers are diagnosed at an advanced stage
  - Overall 5-year survival for ALL stages of lung cancer is:
    - 13% for men
    - 18% for women

Lung Cancer Survival

- Diagnose lung cancer EARLY
  - 5-year survival for stage I lung cancer is 92%
- BUT, early lung cancer is almost always asymptomatic...
  - The solution: proper screening
Early Detection

- MAYO LUNG PROJECT 1970-1980
- National Lung Screening Trial  NCI 9/2002
  - 53,000 enrollment in 3 years
  - High risk patients only:
    - Age 55-74
    - Smoking > 30 pack-years
    - Former smoker stopped within 15 years
    - LD CT scan vs. Chest x-rays annual for 3 yrs

Screening CT scan

National Lung Cancer Screening

- Trial patients F/U 6.5 years
- Deaths 247 vs 309
  - Decreased Mortality 20%
- CT is much more sensitive than CXR
Lung Cancer Screening ...not perfect

- 256 pts screened x 3 yrs stops 1 cancer death in 6 years
- False Positive results
- Insurance coverage?
- US Prevention Task Force Committee
  - Grade B recommendation – December, 2013

Diagnosing Early

- Bronchoscopy
- TTNA
- PET scan
- Navigational Bronchoscopy

Traditional Bronchoscopy
Traditional Bronchoscopy

TTNA

LUNG NODULE PET
Lung Cancer Pathology

Figure 2: Lung Cancer Subtypes

- Bronchogenic Carcinoma
  - Non-small cell carcinoma
    - Adenocarcinoma (36-50%)
    - Squamous carcinoma (25-35%)
    - Large cell undifferentiated carcinoma (>15%)
  - Small cell carcinoma (20%)
Lung Cancer: Subtypes of Non-Small Cell Carcinoma

Adenocarcinoma  Squamous Cell Carcinoma

SURGERY FOR LUNG CANCER

Wedge Resection  Lobectomy

VATS & Robotic Thoracic Surgery
CHEMOTHERAPY

Chemotherapy, alone or combined with radiation, may be used before, after, or instead of surgery in treating lung cancer.

IMMUNOTHERAPY

[Immunotherapy-related diagrams]
The Future

- Navigational Bronchoscopic Ablation
- Targeted Genetic Therapy

“Dying, even more than death, defines the illness”

Siddhartha Mukherjee, MD