

**MECHANISMS OF HUMAN DISEASE
AND
PHARMACOLOGY & THERAPEUTICS**

CASE-BASED SMALL GROUP DISCUSSION

SESSION XV

MHD I

December 5, 2014

STUDENT COPY

Case 1

Cc: Cough x 2 months

HPI Mr. Lynch is 67-year old man presents to a primary care physician with a 2 month history of worsening cough and dyspnea. The cough is usually nonproductive of sputum though there have been a few times when he coughed up a little blood-streaked mucous. He feels more "winded" than usual when he exerts himself. Sometimes he has to sit down and rest while he is trying get work done around the house. Though he does not have a scale, he is certain he has lost weight since his clothes are fitting much looser. His appetite is a little diminished but not enough to explain the weight loss. He has no fevers, chills, or night sweats.

He has no chest pain.

His other concern is that his left shoulder and inner arm ache rather constantly and his left hand has begun to be "clumsy".

Past Medical History:

Last saw his physician ~ 2 years ago for a "check up" and things were "ok"
s/p appendectomy as a child

Medications

Acetaminophen 500mg-1000mg PRN shoulder pain – has been taking 2-3 times per day

He has no known drug allergies.

Social History

Tobacco - Smoked 2 packs of cigarettes per day x 49 years. He stopped smoking on his 66th birthday.

ETOH: He rarely drinks alcohol – last drink was ~ 6 months ago.

Occupation: Retired painter.

He is widowed x 37 years. His wife, who was 5 months pregnant with their first child, died in motor vehicle accident. He has no children.

He lives alone.

Family hx

Mother – died at age 72 of emphysema

Father – died at age 68 of pancreatic cancer

Estranged from 1 brother who "got into a bad crowd"

On physical exam he appears fatigued.

Vitals: Temp 98.9 F, blood pressure 130/70, pulse 92 and regular, respirations 22,
Weight 177 pounds, Height 5'7"

Head appears normocephalic

On eye exam there is mild left ptosis and miosis.

There is left supraclavicular fullness with a 3cm mass

On lung exam breath sounds are diminished in the left upper lung field. There are few scattered end expiratory wheezes throughout the lung fields bilaterally.

Examination of the heart reveals no significant abnormality.

On abdominal exam the liver edge is palpable. No splenomegaly. No abdominal masses.

Lower extremities without cyanosis, clubbing or edema.
Right arm and hand strength and sensation are normal.
There is swelling in the left hand distal to the wrist. The swelling is nontender. He has very limited range of motion in the hand but can flex and extend slightly at the wrist.
There is atrophy in the left upper arm, with a 1 cm decrease in circumference compared to the right side.
Gait is normal.

A chest X-ray is done and shows a lung mass

Learning Objectives:

1. Based on the given clinical data, where do you think the lung mass is located? Correlate with physical exam findings. What do you suspect the lung mass represents?

Over the next week the patient undergoes CT scan of chest, abdomen and pelvis.
Summary of findings:

LARGE LEFT LUNG MASS, WITH DIRECT EXTENSION INTO THE SUPERIOR MEDIASTINUM AND IN LEFT SUPRACLAVICULAR SPACE AND ENCASEMENT OF THE SUBCLAVIAN VESSELS AS WELL AS OF THE ADJACENT BONY STRUCTURES.

(for Faculty the complete report at the end of session to share with students)

Fine needle aspiration of the left supraclavicular lymph node/mass is performed:

FINAL DIAGNOSIS

Left Supraclavicular Lymph Node Aspiration:

Adequacy:

Satisfactory for evaluation.

Interpretation:

Cytological examination: POSITIVE FOR POORLY DIFFERENTIATED CARCINOMA, FAVOR ADENOCARCINOMA.

2. List and briefly describe the characteristic features of the major malignant neoplasms which arise from the tracheo-bronchial tree.

3. List the major presenting pulmonary manifestations of bronchogenic carcinoma.

4. List symptoms that may develop as a result of intrathoracic spread of the cancer.

To further evaluate the extent of disease a PET (positron emission tomography) scan is done and shows no evidence of distant metastases.

5. Why was it important for pathologists to distinguish small cell carcinomas from non-small cell carcinomas?

6. Is this patient's cancer amenable to surgical resection?

7. Summarize Mr. Lynch's prognosis.

Mr Lynch undergoes palliative radiation therapy and chemotherapy.

Five months after initial diagnosis, he presents to his oncologist with 3 falls at home during the preceding week and left leg weakness. He has had 20# weight loss over the past 3 weeks. He feels short of breath all the time. He feels that he can no longer take care of himself at home.

CT imaging of the brain shows cerebral metastases. Repeat CT scan of the chest, abdomen and pelvis reveals:

INCREASED SIZE OF LEFT LUNG MASS AND REGIONAL BONY
DESTRUCTIVE
CHANGES. NUMEROUS NEW SMALL HYPODENSE LESIONS IN THE LIVER
ARE
LIKELY METASTASES. NEW NONSPECIFIC <5 MM NODULAR DENSITY IN
THE
RIGHT MIDDLE LOBE.
MODERATE RIGHT PLEURAL EFFUSION.

8. What issues should be addressed with Mr. Lynch?

9. Are there ways to prevent lung cancer?

10. Discuss the concept of "screening" for a disease. What are key criteria which help determine whether screening for a disease is worthwhile? Give some examples of diseases you have learned about in MHD I for which screening strategies have been developed.

11. Is screening for lung cancer warranted? Are there strategies to screen for lung cancer? (faculty- ask the students what references they used to answer questions 9,10)

12. Review the Case Images

Chest Radiographs – Set 6

Cases 2,3– Unknowns – Case Data will be provided during the small group session.