

## Case History

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A 47 year old African American female was referred to pulmonary clinic for evaluation of dyspnea and recurrent pneumothoraces. Her dyspnea started 6 years prior to evaluation and had continued to gradually worsen. In 2001, she presented to her physician with chest pain and was diagnosed with a left sided pneumothorax, managed without placement of a thoracostomy tube. In 2003 and 2006, left sided pneumothoraces recurred and were managed with thoracostomy tubes. She subsequently underwent left thoracotomy, lysis of pleural adhesions, resection of the left apex, and pleurodesis with talc. She noted intermittent wheezing for 3 years, but rarely notes dyspnea at rest. Over the past year, she has had significant decline in exercise tolerance and began using home oxygen during exertion three months ago. She has had a cough productive of white sputum for a few weeks and early satiety and weight loss of 12 lb over the past month. She currently denies fevers, chills, chest pain, hemoptysis, rhinorrhea, sinus congestion, arthralgia, myalgia, rash, or abnormal menses. She has no history of oral contraceptive use.

### Past Medical History:

- ❖ Emphysema; diagnosed in 2001 based on bullous disease noted on Chest CT
- ❖ Recurrent pneumothoraces
- ❖ Breast Cancer s/p lumpectomy and radiation 1991 with no known recurrence on serial mammography. No hormonal treatments.
- ❖ Benign Thyroid Nodule s/p partial thyroidectomy 1991
- ❖ Hiatal Hernia
- ❖ Eczema

### Past Surgical History:

- ❖ 2006 left thoracotomy, lysis of pleural adhesions, resection of the apex of the left upper lobe and talc pleurodesis of the left thorax
- ❖ 1991 breast lumpectomy
- ❖ 1991 partial thyroidectomy

### Medications:

- ❖ Albuterol/Atrovent inhaler 2 puffs every 6 hours
- ❖ Fluticasone/Salmeterol Discus 500/50 1 inhalation every 12 hours
- ❖ Pantoprazole 40mg daily
- ❖ Cetirizine 10mg daily
- ❖ Clotrimazole cream twice a day
- ❖ Acetaminophen with Codeine every 4 hours as needed for pain

### Allergies:

- ❖ Penicillin – urticaria
- ❖ Eggs - urticaria

### Family History:

- ❖ Father (deceased): Diabetes Mellitus, Peripheral Vascular Disease
- ❖ Mother: Coronary Artery Disease, Diabetes Mellitus, End Stage Renal Disease
- ❖ Son: Asthma, Eczema, HIV

### Social History:

- ❖ Lives in an apartment with a boyfriend in Stafford, VA. Central air conditioning
- ❖ Unemployed. Prior secretarial work
- ❖ No pets or known animal contact
- ❖ 1/3 PPD tobacco use over 25 years
- ❖ Sporadic alcohol use
- ❖ Remote marijuana use; no cocaine, heroin, IV drug use
- ❖ No history of influenza vaccine or pneumovax

## Physical Exam

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Vital Signs:	Blood pressure: 107/64 mmHg, pulse: 69 bpm, respiratory rate: 20 bpm, temperature: 97° Fahrenheit (axillary) Pulse oximetry: 82% on room air. Weight 138 lbs, Height 5'3"
General:	Well developed female in no apparent distress
HEENT:	Conjunctivae pink, sclera non-icteric; pupils equal, round and reactive to light; nasal mucosa and turbinates erythematous and boggy; poor dentition
Neck:	Transverse anterior scar, well healed; no jugular venous distension
CV:	Regular rhythm, normal rate, normal S1 and S2, no murmurs, rubs or gallops
Lungs:	Able to speak in full sentences; no accessory muscle use; normal chest expansion and symmetry; left anteriolateral scar well healed; tympany on percussion bilaterally; decreased tactile fremitus bilaterally; no adventitious sounds auscultated
Abdomen:	Normal bowel sounds; non-distended, non-tender, no organomegaly or masses
Extremities:	Normal pedal pulses
Lymph:	No cervical, axillary, inguinal lymphadenopathy
Neurologic:	No focal deficits
Derm:	Normal inspection of skin and nails
Psych:	Occasional difficulty with concentration; normal affect, insight

## Studies

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Sodium 141mmol/L, Potassium 4 mmol/L, Chloride 111 mmol/L, Bicarbonate 26 mmol/L, BUN 9 mg/dL, Creatinine 0.63 mg/dL, Glucose 73 mg/dL, Calcium 8.7 mg/dL

WBC 8.0 x 10<sup>9</sup>/L, Hemoglobin 10.7 g/dL, Platelets 368 x 10<sup>9</sup>/L

INR 1.0, PTT 28 seconds, Alpha-1 Antitrypsin assay: within normal limits

Urinalysis unremarkable

## Pulmonary Function Tests

FVC	2.71 L	(97% predicted)
FEV1	1.68 L	(74% predicted)
FEV1/FVC	62%	(77% predicted)
RV	2.09 L	(136% predicted)
TLC	4.74 L	(111% predicted)
DLCO	5.99 mL/min/mmHg	(27% predicted)

No improvement after inhaled bronchodilators

## VCU Six Minute Walk Test

Borg Dyspnea Index 4 (Somewhat Severe)

## High Resolution Chest CT

No lymphadenopathy greater than 10mm. Hyperexpanded lungs.  
Remote left pleurodesis and left upper lobe wedge resection  
Left apical pneumothorax with maximum degree of pleural separation estimated at 18mm. Apical bullous emphysema.

High resolution imaging reveals diffuse cystic lung disease involving upper, mid and lower lung zones. The cystic lesions are uniform in diameter. There are scattered regions of paraseptal emphysema throughout the lungs which mimic larger cystic lesions.

A diagnostic test was performed.

*Protocol prepared by Mini Mahata, MD*

## Department of Internal Medicine Clinicopathologic Conference

December 2007



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## A 47 year old woman with dyspnea and recurrent pneumothoraces

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