

Radiology Report  
05/23/2007

Abdominal Series (Digital)

Clinical History: Rule out obstruction. Right upper quadrant, right flank pain.

Findings:

Abdomen: Nonspecific bowel gas pattern. No evidence for obstruction. No free air. No soft tissue mass. Degenerative changes of the lumbar spine. Aortoiliac artery calcification.

Chest: PA view of the chest shows a soft tissue mass in the right side of the mediastinum

Impression:

1. Negative abdominal series
2. Right-sided superior mediastinal mass. Additional evaluation by CT is recommended.
3. Action required

Radiology Report  
07/07/2007

CT Chest (Digital)

Clinical History: Patient has history of cigarette smoking, now with right mediastinal mass.

Comparison: Chest radiograph of 05/23/2007

Findings:

5 mm axial images were obtained from the thoracic inlet through the upper abdomen. This study was performed using contrast.

A large soft tissue mass is seen within the mediastinum. The mass lies just posterior to the superior vena cava and towards the right of the aortic arch. The mass measures at least 5.1 x 3.8 cm and is of uncertain etiology. Potentially, this could represent a group of markedly enlarged lymph nodes. Other neoplastic masses such as bronchogenic carcinoma, leiomyosarcoma, or mesothelioma cannot be excluded. There are enlarged lymph nodes within the superior mediastinum. The largest measures 2.9 x 1.9 cm. Large subcarinal lymph nodes are also seen measuring 1.8 x 1.0 cm. A markedly enlarged right hilar lymph node is seen measuring 2.0 x 2.6 cm. Smaller right hilar lymph nodes are also seen measuring 1.0 x 1.5 cm.

There are multiple pulmonary nodules identified with the right lung. The majority of these nodules appear calcified and probably represent granuloma. There is one nodule in particular which lies within the right mid lung anteriorly (image 22). This nodule does not clearly contain calcium and could represent a metastatic lesion. The lungs are hyperinflated and this is compatible with chronic obstructive pulmonary disease.

Nodes are seen within the anterior mediastinum just anterior to the aortic root.

Images through the upper abdomen demonstrate a hypodense mass-like area within the left lobe of liver. This abuts the falciform ligament and can be seen best on image 52. This lies within the medial segment and is of uncertain etiology. This area is much larger than one would expect for focal fat deposition alone. This is worrisome for an underlying mass. The area in question measures 2.1 x 1.9 cm. There is fatty infiltration of the liver. The visualized portions of the spleen, pancreas, adrenal glands and kidneys appear within normal limits. The bowel within the upper abdomen appears unremarkable.

Extensive hypertrophic changes are present throughout the spine.

Impression:

1. Multiple enlarged mediastinal and right hilar lymph nodes. A large mass is present within the middle mediastinum measuring 5.1 x 3.8 cm. This could represent a primary neoplasm with the remaining nodes representing metastatic disease. The differential diagnosis would include bronchogenic carcinoma, mesothelioma, or other tumor such as leiomyosarcomas.

2. Multiple pulmonary nodules, the majority of which appear to represent granuloma. One nodule, however, does not appear to confidently contain calcium and could represent a metastatic lesion.
3. Hypodense area within the left lobe of liver of uncertain etiology. This area is known for fat deposition, however, the area in question is larger than one would expect for a fat deposition alone. Because of this, and in light of the extensive mediastinal adenopathy, this is highly suspicious for a liver metastasis.
4. Action required

Outpatient Consultation  
07/18/2007

History: The patient is an 81-year-old Caucasian female who has been referred to me because of an abnormal CT scan of the chest.

The patient has been a heavy smoker smoking at least one pack of cigarettes per day with a history of about 60 pack years of smoking in the past. She has been having a chronic cough which she states is not bothersome to her. Recently the patient started having pain on both sides of the chest and epigastric region. This led to a workup including a CT scan of the chest. In the meanwhile pain on the sides of the chest has resolved. The patient was put on medication for gastroesophageal reflux disease with significant improvement of her symptoms. A CT of the chest wall showed her to have a large mediastinal mass density. The patient has been referred to me for further evaluation.

The patient denies any change in her cough as noted above. She denies any sputum production and there is no hemoptysis. There is no pleuritic chest pain. The patient has noticed decreased appetite and states that she may have lost some weight. However, she was not aware of how much. She stated that she does not weigh herself.

The rest of the review of systems was noncontributory. The patient does have a history of hypertension and this has been under control with medications.

The patient has primarily worked as a homemaker and has done different small jobs including working at a plywood mill. There is no history of exposure to asbestos, silica dust, radioactive materials, mining, welding, sawmill dust, sandblasting or any other noxious chemicals or fumes. She denies any unusual hobbies and there is no history of exposure to any unusual animals.

The patient had a Pneumovax in the past and has been getting yearly influenza vaccine. The patient denies having been told to have any significant pulmonary problems including bronchial asthma, pneumonia, tuberculosis, skin test positive for tuberculosis, Valley fever or histoplasmosis.

There is no history of tuberculosis, bronchial asthma, emphysema or cystic fibrosis in the family. One of her sisters had breast cancer.

Physical Examination:

General: At the time of examination the patient was in no acute distress

Vital Signs: Pulse was 69 per minute and regular. Blood pressure was 135/72 mmHg.

Temperature 96.1 degrees Fahrenheit. Respirations were 16 per minute. Oxygen saturation on room air at rest was 93%.

HEENT: Unremarkable

Neck: The jugular veins were nondistended. Trachea was central and easily moveable. No masses were felt in the neck region.

Chest: Chest wall was symmetrical. There were no focal areas of chest wall tenderness. Breath sounds were vesicular. However, expiration was prolonged. There were no crackles, wheezes or pleuritic rubs. Examination of the heart, abdomen, and extremities was also unremarkable.

Diagnostic Data: A CT scan of the chest shows the patient to have a large right paratracheal mass lesion. There is extensive involvement of the mediastinal nodes. There are small few millimeter size densities in the right lung as well. There is no evidence of any pleural effusions.

Assessment: The patient has a large mediastinal mass and has been a heavy smoker. The possibility of bronchogenic carcinoma needs to be excluded.

Plan: There was a long discussion with the patient and she was advised to undergo a fiberoptic bronchoscopy for further evaluation. If this is not diagnostic the patient will need either a fine needle aspirate of the large mediastinal mass or a mediastinoscopy. The situation was discussed with the family.

Outpatient Procedure Note  
07/20/2007

Preoperative Diagnosis: Mediastinal mass

Postoperative Diagnosis: No endobronchial lesions seen

Procedure: Fiberoptic bronchoscopy

Anesthesia Used: Topical 2% and 4% Lidocaine solution and 2% Lidocaine jelly

Procedure: Four percent Lidocaine solution was sprayed over the nasal and pharyngeal mucosa. The nasal mucosa was lubricated with 2% Lidocaine jelly. Bronchoscope was advanced via right nasal passage into pharynx. No lesions were seen in the right nasal passage, nasopharynx or oropharynx. Vocal cords were seen to be moving normally. Bronchoscope was then advanced into trachea. Additional 2% Lidocaine solution was used for topical anesthesia as needed. Carina was sharp, although there appeared to be slight deviation towards the left side. There was no endotracheal or any other focal endobronchial lesion seen in any of the main stem bronchi or the upper lobe bronchi, including their segmental and subsegmental bronchi. Specifically the right main stem, right upper lobe, right intermediate, right middle, right lower, left main stem, upper and lingular division of left upper and left lower lobe bronchi were all seen to be patent. All the segmental and subsegmental bronchi were also without any focal lesions. No biopsies were taken as no focal lesions were identified. Brush biopsy and bronchial washings were obtained from all the segments of the right upper lobe. Bronchoscope was then withdrawn. The procedure was overall uneventful.

Pathology Report  
07/20/2007

Clinical History: 80-year-old female with CT scan 5 x 3.8 cm superior mediastinal mass with mediastinal adenopathy. Histology: Small cell undifferentiated ca (favor) vs lymphoma – surgeon says clinically c/w ca.

Specimen:  
Bronchial Brush

Final Diagnosis:  
Bronchial Brush: Negative for malignant cells.

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Pathology Report  
07/20/2007

Clinical History: Right upper lobe bronchial brush, non gyn cytology. Mediastinal mass. ? Malignancy. 2 bronchial brushings slides received for evaluation.

Specimen:  
Bronchial Alveolar Lavage

Final Diagnosis:  
Bronchial Alveolar Lavage: Negative for malignant cells

Pathology Report  
08/23/2007

Clinical History: Tissue/Tissue Site: Mediastinal tissue. RUSH

Surgical Procedure: Mediastinoscopy with mediastinal biopsy.

Prior History of Malignancy: None

Clinical Data: 81-year-old female. CT scan 5 x 3.8 cm superior mediastinal mass with mediastinal adenopathy.

Specimen:  
Mediastinal tissue

Gross Description:

Received in formalin and labeled "Patient, mediastinal tissue" are fragments of friable tan-brown tissue aggregating to 0.8 cm. Filtered. (X-0) One cassette. Three-level section requested.

Final Diagnosis:

Consistent with small cell undifferentiated carcinoma, superior mediastinal mass, biopsy.

Note: Please see the attached immunohistochemistry consultation report from doctor. A preliminary diagnosis was telephoned to doctor the morning of August 25, 2007.

Immunohistochemistry

|               |                                       |
|---------------|---------------------------------------|
| CAM5.2        | - positive                            |
| Synaptophysin | - positive                            |
| Chromogranin  | - positive, dot-like staining pattern |
| CD3           | - negative, positive internal control |
| CD20          | - negative, positive internal control |

Mediastinum, Biopsy:

Morphologic and immunophenotypic findings support involvement by small cell undifferentiated carcinoma (see comment).

Please Note:

The immunoperoxidase stain(s) reported above was developed and its performance characteristics determined by the Regional Immunohistochemistry Laboratory/The Permanente Medical Group, Inc., Northern California. It has not been cleared or approved by the U.S. Food and Drug Administration, although such approval is not required for analyte-specific reagents of this type.

Outpatient Consultation  
08/29/2007

History: We had the pleasure of seeing this patient in our Oncology Outpatient Clinic today. While I am sure that you are well aware of her history, for my own records please allow me to recap. As you know the patient is an 81-year-old very pleasant woman with a significant past medical history for hypertension as well as rheumatoid arthritis as well as a 50+ pack year history of tobacco use who presented initially to you approximately two to three months ago with some vague chest pain as well as some right mid quadrant and right lower quadrant abdominal pain. A chest x-ray at that time demonstrated a large mediastinal mass. Of note an abdominal CT in June of 2007 demonstrated no significant findings. However, the finding on her chest x-ray was followed up by a CT scan performed on 07/07/2007 of the chest which demonstrated a 5.1 x 3.8 cm middle mediastinal mass with multiple enlarged superior mediastinal lymph nodes, the largest measuring 2.9 cm x 1.9 cm and right hilar lymph nodes with the largest measuring 2.0 x 2.6 cm as well as subcarinal lymph nodes (1.8 x 1.0 cm) as well as multiple pulmonary nodules in the right lung. Most of these nodules were calcified representing likely granulomas. However, there was one that was not calcified with a question of metastatic lesion. The upper abdominal field on this chest CT demonstrated a hypodense mass-like lesion within the left lobe of the liver measuring 2.1 x 1.9 cm. The question was could this represent a metastatic lesion versus a primary fatty mass and it was felt to be too large to represent a fat deposition. Of note, the spleen, pancreas, adrenal glands and kidneys were all within normal limits. The patient then went on to undergo a fiberoptic bronchoscopy in July 20, 2007 which was essentially normal, specifically no endobronchial lesions were noted. Bronchial brushings as well as BAO was negative for malignant cells at that time. The patient then proceeded to have a mediastinoscopy performed on 08/23/2007. From the dictated report, it appears that the mass had a smooth capsule and was firm and was located just right of the aortic arch. Upon biopsy, it appeared to contain necrotic debris. This biopsy was sent for AFB which was negative as well as fungal cultures which are pending. The pathology report from the mediastinoscopy biopsy was reported in doctors E-consult as small cell cancer. Upon discussion with doctor of pathology today, 08/29/2007 as well as a recent message from the regional laboratory concerned the IHC evaluation, the final pathology presenting to our clinic for discussion of medical management of her is likely stage IV small cell lung cancer.

Review of Systems: The patient notes a persistent mild chronic cough. However, it is not productive of significant sputum nor is it productive of blood. The patient denies any significant shortness of breath and the patient denies any chest pain. She does endorse improving, however, intermittent mid and right lower quadrant abdominal pain which is sharp in nature. She denies any cramping pain and she denies any nausea, vomiting, or diarrhea. She does note some mild constipation. However, she denies any bright red blood per rectum and she notes that her stool is brown. The patient denies any constitutional symptoms, specifically no fevers or chills and no significant night sweats. She additionally denies any significant weight loss. However, she does note some decreased in appetite. The patient is able to perform all the activities of daily living. Medications: Include sulfasalazine, vitamin B12 shots, atenolol, hydrochlorothiazide, and nifedipine.

Allergies: She has no known drug allergies

Past Surgical History: Approximately 38 years ago the patient had a total abdominal hysterectomy and bilateral salpingo-oophorectomy for a possible GYN malignancy. The patient is not clear on what this may have been.

Past Medical History: Significant for hypertension, rheumatoid arthritis, as well as a possible GYN malignancy treated with a total abdominal hysterectomy and bilateral salpingo-oophorectomy approximately 38 years ago.

Social History: The patient is currently a homemaker. She is married and lives with her husband and well as her grandson. She denies any significant alcohol use. She does note a 50+ year history of tobacco use and she quit approximately eight days ago. She denies any IV drug abuse.

Family History: The patient has a sister with a history of breast cancer.

Physical Examination:

Vital Signs: Temperature is 98.4. Blood pressure is 122/60. Pulse is 84. Respirations are 24. Weight is 159.6 pounds and height is 5'1".

General: The patient appears her stated age. She is well-developed and in no acute distress.

HEENT: Pupils are equal, round and reactive to light and accommodation bilaterally.

Extraocular movements are intact bilaterally. Sclerae are anicteric. Moist mucous membranes that are pink with no exudate.

Neck: Supple with no cervical lymphadenopathy. The patient has good range of motion and has a healing mediastinoscopy biopsy incision which appeared to be clean, dry and intact.

Chest: Mild decreased breath sound diffusely. However, without any focal crackles or wheezes. There is no dullness to percussion.

Heart: Regular rate and rhythm with no murmurs, gallops, clicks or rubs.

Abdomen: Soft. However, there is some tenderness to palpation in the mid right lower quadrant. No Murphy's sign and no rebound and no guarding. The patient has positive bowel sounds x4.

Lymphatic System: No cervical lymphadenopathy and no axillary lymphadenopathy noted.

Musculoskeletal: Examination is essentially normal with a motor of 5./5 x4.

Skin: Normal to inspection without any rash or petechiae.

Neurologic: Cranial nerves II through XII are intact. Patellar reflexes are 2+ bilaterally and sensation is grossly intact.

Laboratory Data:

The patient has labs from 8/18/2007 that demonstrate a calcium of 9.8, magnesium of 2.4 and phosphorous of 4.0. Chem-7 at that time was essentially normal except for a mildly elevated chloride of 95. INR at that time was 1.1. CBC at that time was essentially normal. The patient had liver function tests from June of 2007 which were all within normal limits. Additionally the patient had a pathology report from 07/20/2007 demonstrated a bronchial brushing that was negative for malignancy and a BAO from 07/20/2007 which was also negative for malignancy and an AFB staining from 07/20/2007 that was negative. Additionally the mediastinoscopy biopsy was confirmed with a final pathology report verbally from doctor of Pathology as well as his being informed today by regional laboratory of the findings of the IHC evaluation that this sample was most consistent with small cell lung cancer. The patient had a CT of the chest from July 7, 2007 which demonstrated a 5.1 x 3.8 cm middle mediastinal mass with multiple enlarged superior mediastinal lymph nodes as well as a right hilar lymph node and subcarinal lymph nodes. Additionally, there were multiple pulmonary nodules in the right lung as well as a hypodense mass-like lesion in the left liver. For specifics please see the HPI. Additionally the patient had a CT of the abdomen on July 7, 2007 which was unremarkable except for some degenerative skeletal changes. Of note, the patient had a abdominal series of plain films on May 23, 2007 and from these the PA view of the chest included show the soft tissue mass on the right side of the mediastinum and otherwise it was a negative abdominal series. Additionally the patient had an essentially normal chest x-ray read in January of 2000. The patient had bilateral mammograms with benign findings and no evidence of malignancy in July of 2001.

Assessment: This is a very pleasant 81-year-old woman with a longstanding history of tobacco use who only recently quit but now presents with radiographic as well as now pathologic evidence of stage IV small cell lung cancer and who is presenting for discussion concerning medical management.

Plan: After a long discussion with the patient and her husband and daughter, the prognosis of her diagnosis was explained, specifically discussing survival averages without treatment which has been reported at approximately three months. With chemotherapy the average survival is approximately one year. The plan at this time based on the patient's age would be to start a carboplatin etoposide regimen administered q. 21 days x four to six cycles. The patient was given a prescription for allopurinol to be started today and to continue for the next 30 days. The patient was additionally given anti-emetics. We will check some basic laboratory tests today in anticipation for chemotherapy to start sometime next week. We will schedule the patient for a chemotherapy class and the patient will then subsequently start her chemotherapy sometime after that. She will follow up with doctor in approximately three weeks. The patient was seen and examined by doctor who agrees with the above plan.

Thank you very much for allowing us to participate in the care of this very pleasant woman. If you have any questions, please do not hesitate to contact our office.

Patient MR# 777703  
Patient Name: Mary McNair

Lung Advanced Case #3  
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Outpatient Chemotherapy Clinic Visit Encounter Detail  
09/29/2007

Small cell lung cancer

Feels fine

o- no nodes, lungs clear

abd soft

cbc ok

a- neutropenia resolved

p- cycle 2 carbo-vp16. Add Neupogen. RTC 3 weeks with cxr.