Cutaneous Manifestations of Metastatic Lung Cancer

Sarah Ferrer-Bruker, D.O.
PGY VI
Department of Dermatology
West Palm Beach VA Hospital, WPB FL
West Palm Hospital
Palm Beach Centre for Graduate Medical Education
Disclosure of Relevant Relationships

- I do not have any relevant relationships with industry
Cutaneous Metastasis of Lung Cancer

- Lung cancer is the second most common type of malignancy.
- The leading cause of death from cancer.
- Its incidence is decreasing in men but increasing in women, and the most common age group is 55 to 65 years old.
- Prognosis of lung cancer is quite poor with an overall 5-year survival rate of about 15 percent.
- Frequent metastatic sites for lung cancer include hilar nodes, adrenal glands, liver, brain, and bone.
- Cutaneous metastases from the lung are rare but must be ruled out in patients with suspicious skin lesions and history of smoking or lung cancer. All histological types of lung cancer may metastasize to the skin and clinical lesions are variable.
Case Presentation

- **CC:** “My cataract surgery was cancelled from a rash I got from an EKG.”

- **HPI:** 83 year old veteran with a lower abdominal rash for 2 months. It is asymptomatic. He believes it started around the time he was having pre-op clearance for a cataract surgery.

- **Past Medical Hx:** Adenocarcinoma of the colon s/p resection with ostomy, chemo and radiation 16 years prior, non small cell lung cancer (adenocarcinoma) s/p partial lobectomy and radiation 3 years ago, HTN, hyperlipidemia
Case Presentation

- Family Hx: non contributory
- Social History: 20 pack year history, quit 20 years ago
- ROS: neg for fever, chills, night sweats, weight changes, pain or discomfort, changes in appetite, diarrhea, shortness of breath, hemoptysis.
- Physical Exam: Vital signs were within normal limits. Mid to lower abdominal skin revealed indurated blanchable dusky erythematous, violaceous nodular dermal plaques
Physical Exam
Physical Exam
DDx

- Cellulitis
- Allergic/Irritant Contact
- Panniculitis
- Interstitial Granulomatous dermatitis
- Cutaneous metastatic disease
- Atypical Angiosarcoma
CK 7
PanKeratin
CK 20
TTF-1
Diagnosis

- Metastatic Spread of Recurrent Primary Lung Carcinoma

- Patient underwent additional workup which revealed 2 new right middle lung masses that were not present on most previous PET/CT scan.

- Sent to hematology/oncology who quickly initiated chemotherapy with Gemcitabine (Gemzar)
Incidence of cutaneous metastasis: 5-6%

Out of all cancers to metastasize to the SKIN, melanoma dominates.

Breast Ca, Melanoma, and Lung Ca have the highest incidence of presenting with mets to the skin.

For older men who present with skin metastasis, Lung Ca is the most common type: 24%
Cutaneous Metastasis of Lung Cancer: Presentation

- In one study, 11 out of 21 patients with metastatic lung cancer had their metastatic skin lesions present as the first sign of extranodal disease.

- Morphologically, lesions are usually nodular, painless, and may be either single or multiple.

- The scalp, head and neck were the most common sites along with anterior chest and abdomen.

- Several atypical presentations of metastatic lung cancer have been described including spread to both upper and lower limbs, gingiva, genitalia, and incision sites.

- Although nodules are the most common presentation, different patterns have been reported including zosteriform, ulcerative, fungating, and erysipeloid like presentations.
Mollet, TW, Garcia CA, Koester, G. Skin metastasis from lung ca. Dermatology Online Journal. [Internet]. 2009 [Cited Jan 2015 1]; 15(5). Available from: http://escholarship.org/uc/item/9r83m6wj
Cutaneous Metastasis of Lung Cancer: Histology

- Diagnosis made on biopsy, with H&E showing nodules of tumor cells within the dermis and or vessels, or atypical cells within a fibrotic stroma.

- Cutaneous metastases from the lung are frequently moderately or poorly differentiated.
  - Undifferentiated cutaneous metastases most often originate from the lung in men, breast in women, or melanoma.
  - The most common type is adenocarcinoma (ACC), followed by squamous-cell carcinoma or small-cell carcinoma, and then large-cell carcinoma.

- Metastatic ACCs from the lung are usually moderately differentiated. They sometimes show well-differentiated glandular structures or intracytoplasmic mucin. In these cases, gastrointestinal, ovarian, kidney, and breast primaries should be ruled-out.
  - CK 7 +
  - CK 20 –
  - TTF +
Other types of lung cancer rarely metastasizing to the skin include:

- mesothelioma
- bronchial carcinoids
  - Carcinoid syndrome
- bronchiolar carcinoma
- mucoepidermoid carcinoma
- pulmonary sarcoma
- intravascular bronchioalveolar tumor
- well-differentiated fetal adenocarcinoma, pleural epithelioid
- haemangioendothelioma, and adenoid cystic carcinoma
Cutaneous Metastasis of Lung Cancer:

- **Treatment**
  - Solitary lesions: usually surgery alone or combined with chemo/radiation
    - Small studies have proposed that surgery may increase survival in this subset of patients (survival 12.5 mo)
  - Multiple lesions: chemo is primary option

- **Prognosis**
  - Mean survival is usually about 5-6 months
  - Poor prognostic factors: non resectable or small cell primary tumors, multiple cutaneous metastases, or distant metastases
Presentation

1 year later
In men and women with suspicious skin lesions, especially in those who have a smoking or lung cancer history, cutaneous metastasis from the lung should be in the differential diagnosis.

They most often present as nodules on the chest wall, abdomen, or head/neck, but they may also present as many other forms.

The metastases are usually moderately-to poorly-differentiated adenocarcinomas, squamous-cell carcinomas, small-cell carcinomas, or large-cell carcinomas.

The diagnosis can frequently be made using clinical information and histology from a skin biopsy, but may require immunohistochemistry.

Unfortunately, cutaneous metastases from the lung frequently indicate a very poor prognosis. However, treatment should not be withheld given documented cases of prolonged survival with treatment.

Future dermatopathology and IHC testing for detecting targets for therapy
Thank you


References


