Pulmonary Carcinosarcoma with metastasis to the soft tissue - A Rare Case report

M. Malekzadegan, K. Solanki, SH. Pir, T. Arab, S. Chauhan, C. Thurm

Jamaica Hospital Medical Center, Jamaica, NY , 11418 - USA

ATS 2019 Where today's science meets tomorrow's care™

dallas tx MAY 17- MAY 22, 2019

Introduction :

Pulmonary carcinosarcoma (PC) is a rare malignant tumor consisting of a mixture of non-small cell lung carcinoma (NSCLC) and sarcoma containing heterogeneous elements. PC's account for less than 1% of all lung cancers. Smoking remains the most important risk factor in PC and is present in 90% of the cases. The average age of diagnosis is 60, with male predominance. Here we report a case of PC in an elderly female with metastasis to the upper extremities.

Case Description :

A 79-year-old female with a 50-pack-year smoking history and underlying chronic obstructive pulmonary disease presented to the clinic for lung mass evaluation. She complained of progressively worsening dyspnea for eight months. Associated symptoms included unintentional weight loss and painful tissue swelling of the proximal right upper extremity and left hand. Lung examination revealed mild scattered rales in the right lower lobe. There was a large soft tissue swelling in the lateral aspect of proximal right upper extremity which was tender. There was another soft tissue swelling in the left hand on the palmar surface including the thenar fat pad.

Chest radiograph revealed a mass in the right lung. Computed tomography of the chest revealed a large, smooth mass within the superior segment of RLL extending to the RUL (8.4x7.8 cm). There was also centrilobular emphysema and a tumor thrombus seen in the right pulmonary vein (Figure 1A). MRI of the right upper extremity and left hand revealed heterogeneous soft tissue masses measuring 6.8x7.5x7.6cm and 5.6x4.7x5.7cm respectively (Figure 1B).

The patient underwent a CT-guided biopsy of the right lung mass which revealed a cellular, high-grade neoplasm, with focal sarcomatoid/spindle cellular features, favoring carcinosarcoma. She was referred to an oncologist for chemotherapy and received radiotherapy for palliation of the pain in the upper extremities. The patient expired 5-months after diagnosis.

Figures:

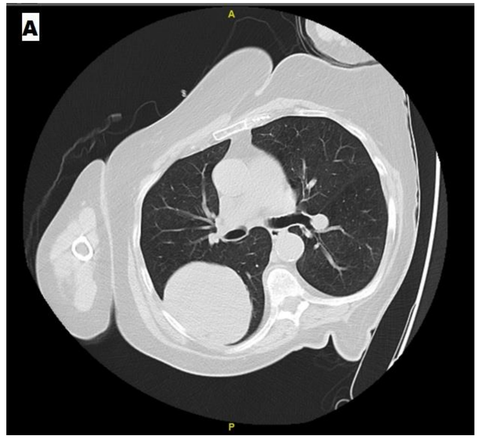

Figure 1A: Computed tomography of the chest showing a large (8.4 x 7.8 cm) mass within the superior segment of the right lower lobe extending to the right upper lobe.

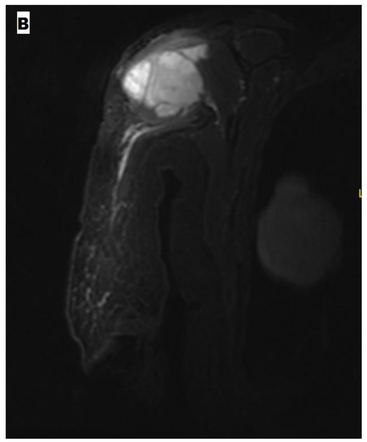

Figure 1B: Magnetic resonance imaging of the right upper extremity showing heterogeneous soft tissue mass measuring 6.8 x 7.5 x 7.6cm.

Discussion:

Pulmonary carcinosarcoma is a rare sarcomatoid carcinoma comprised of a mixture of malignant epithelial and mesenchymal elements. Squamous cell carcinoma most frequently represents the carcinomatous component (69%), followed by adenocarcinoma (20%), and large cell carcinoma (11%). Spindle cell sarcoma is the most common mesenchymal component.

Clinically, two subtypes have been described: a central endobronchial type and a peripheral invasive type also called parenchymal carcinosarcoma. The endobronchial lesions have a slow growth rate and invade locally, whereas parenchymal tumors metastasize early and widely.

Pulmonary carcinosarcoma has the propensity to metastasize to distant sites and the prognosis of these patients is poor.

References:

1. Travis, William D. et al.The 2015 World Health Organization Classification of Lung Tumors. *Journal of Thoracic Oncology* , Volume 10 , Issue 9 , 1243 – 1260.
2. Braham E, Ben Rejeb H, Aouadi S, Kilani T, El Mezni F. Pulmonary carcinosarcoma with heterologous component: report of two cases with literature review. *Ann Transl Med*. 2014;2(4):41. doi:10.3978/j.issn.2305-5839.2014.02.10
3. Olobatoke AO, David D, Hafeez W, Van T, Saleh HA. Pulmonary carcinosarcoma initially presenting as invasive aspergillosis: a case report of previously unreported combination. *Diagn Pathol*. 2010;5:11. Published 2010 Jan 29. doi:10.1186/1746-1596-5-11.
4. Yendamuri, S., Caty, L., Pine, M., Adem, S., Bogner, P., Miller, A., Demmy, T., Groman, A. and Reid, M. (2012). Outcomes of sarcomatoid carcinoma of the lung: A Surveillance, Epidemiology, and End Results database analysis. *Surgery*, 152(3), pp.397-402.
5. HUWER, H., KALWEIT, G., STRAUB, U., FEINDT, P., VOLKMER, I. and GAMS, E. (1996). Pulmonary carcinosarcoma: diagnostic problems and determinants of the prognosis. *European Journal of Cardio-Thoracic Surgery*, 10(6), pp.403-407.
6. Braham E, Ben Rejeb H, Aouadi S, Kilani T, El Mezni F. Pulmonary carcinosarcoma with heterologous component: report of two cases with literature review. *Ann Transl Med*. 2014;2(4):41. doi:10.3978/j.issn.2305-5839.2014.02.10
7. Bull, J. and Grimes, O. (1974). Pulmonary Carcinosarcoma. *Chest*, 65(1), pp.9-12.