



How do I diagnose *metastatic giant cell tumor into lung*

Klaus Kayser*), Stephan Borkenfeld, Krasi Serguieva, Gian Kayser

Affiliation *) Institute of Pathology, Charite, Berlin, Germany

Email: klaus.kayser@charite.de

Differential diagnoses: Primary Osteosarcoma, Sarcoidosis, Tuberculosis

Side findings: Interstitial pneumonitis and angiitis

Abstract

This 26 years old male patient developed an osteoblastic tumor in the right os metatarsale I at the age of 21 years. The lesion was excised en bloc including the os cuneiforme and the m. extensor hallucis. After surgery a venal thrombosis occurred and was treated by thrombectomy and anti coagulation therapy. Five years later 9 intrapulmonary lesions were noted which were radiologically consistent with intrapulmonary metastases. Two separate right and left lung surgeries were performed, and 17 active metastases of the left lung as well as 18 metastases of the right lung were excised. Post surgery course was inconspicuous. No cytostatic therapy was applied. The patient is still alive 13 years after surgery.

Online References (PubMed)

Virtual Slides: www.diagnosticpathology.eu/vs/2015_1_65

Anamnesis / History

This young man developed a giant cell tumor of his right os metatarsale, which was completely excised en bloc. Five years later multiple solid lesions were noted by X-ray and CT. All in all 35 pulmonary metastases were excised in the right and left lung in two separate sessions. No post surgical cytostatic therapy. Inconspicuous post surgical course.

Gross - microscopic findings

Multiple grayish white firm lesions measuring from 1 mm until to 32 mm (maximum).

Microscopy



The metastases are composed of multiple giant cells mimicking immature osteoclasts. The larger metastases display with immature bone matrix. Multiple clusters of fibroblasts. Weak inflammatory response of the host tissue.

Expression of markers

Not applied

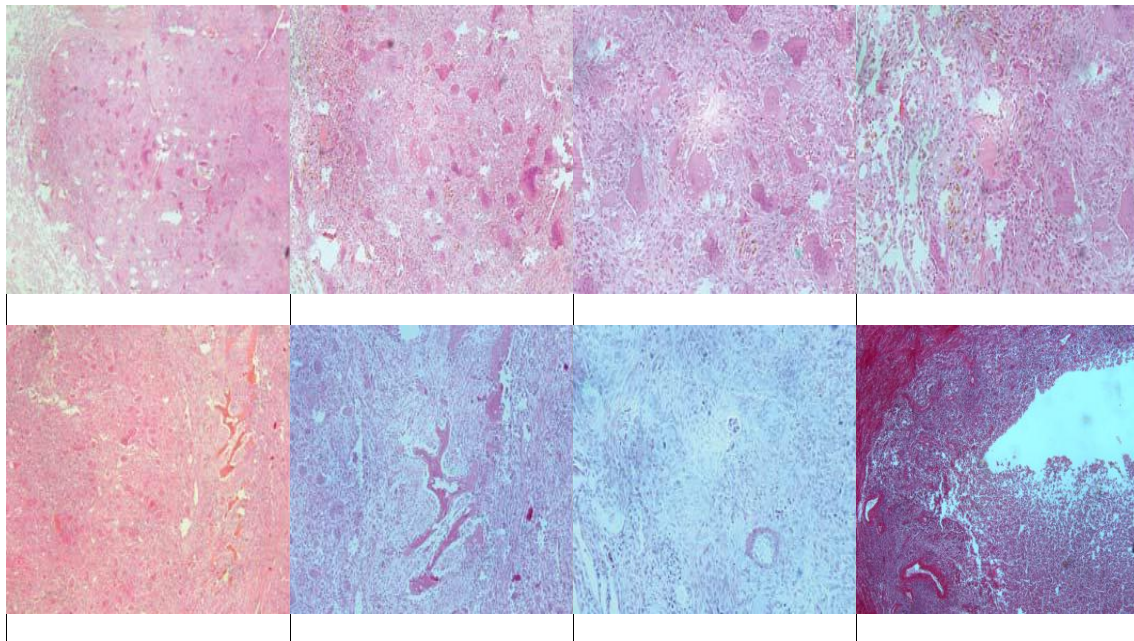
Discussion

Giant cell tumors account to about 5% of all bone tumor in childhood and adolescence. They are considered to be semimaligne, and several reports of pulmonary metastases do exist. They hardly do respond to cytostaitc or chemotherapies. This report should demonstrate that the firm consistency of pulmonary giant cell metastases permits the search and consecutive resection of even small lesions measuring 1 mm in maximum diameter.

Hallmarks of Diagnosis

Clinical history, multiple immature giant cells, formation of bone matrix.

Images (for full size images see supplements)





Keyword - Diagnosis: [lung metastases of gaint cell tumor](#)

Keyword - differential diagnosis: [lung sarcoma](#)

Keyword - side findings: [interstitial pneumonitis](#)

Keyword - organ: [lung](#)

Keyword - methods: [wedge resection](#)

Keyword - others: [prognosis](#)

Online References (PubMed)

[1. F. Bertoni et al, Giant-Cell Tuor of Bone with Pulmonary Metastases, Clinical Orthopedics 237:, 1988](#)

[2. JC Cheng, JO Johnston, Giant Cell Tumor of Bone, Clinical Orthopedics, 338, 1997](#)