

P14.14: Pulmonary Mesenchym Hamartomas in Cancer Pathways : A Four-Case Surgical Series Unmasking Benign Mimics of Lung Malignancy

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INTRODUCTION

Pulmonary hamartomas are the most common benign lung tumors yet remain uncommon in thoracic oncology and often mimic primary lung cancer.

Four case series of pulmonary mesenchymal hamartomas on lung cancer pathways highlighting non-small cell lung cancer (NSCLC) like imaging and surgical impact

METHODS

A retrospective study was conducted on all consecutive patients with histologically confirmed pulmonary hamartoma in our Department of Pathology in Sfax, Tunisia, between 2023 and 2025.

Data were obtained from clinical, imaging, procedural and pathology reports.

Lobectomy, was performed for suspected or proven cancer, whereas wedge resection was used for peripheral hamartoma-like nodules with safe margins.

DISCUSSION AND CONCLUSION

Our findings are in line with published series showing that pulmonary hamartomas, although benign, may coexist with lung cancer and can be overtreated with major resections in oncologic pathways. They support parenchyma sparing surgery with intraoperative frozen section as the preferred option for indeterminate nodules suggestive of hamartoma, reserving lobectomy for clearly malignant or non respectable lesions in older, comorbid patients.

Pulmonary mesenchymal hamartomas on lung cancer pathways can mimic or coexist with NSCLC and may prompt unnecessary major resections if unrecognized. Combining clinical risk, CT/PET CT findings and intraoperative frozen section, with a preference for parenchyma sparing surgery, helps unmask these benign mimics and avoid unwarranted lobectomies.

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RESULTS

Four male patients, with a mean age of 68 years, were included; cardiovascular comorbidities and smoking-related lung lesions (emphysema, anthracosis) were present in all cases, and every patient was referred through a specialized lung cancer care pathway.

Case 1: A **60-year-old** man presented with hemoptysis, weight loss, and a well-defined, partially calcified dorsal nodule measuring **3 × 3 × 2.5 cm** in **the right upper lobe**; CT scan was doubtful, and a **wedge resection with parenchymal preservation** was performed. Frozen section and final **histology** confirmed a chondromatous hamartoma with clear margins.

Case 2: A **76-year-old** man with a known **right lower lobe** NSCLC (**2.5 cm**, pT1cN0) had imaging revealing a second, indeterminate **middle lobe nodule** suspicious for metastasis. During **lobectomy**, the surgeon performed a **wedge resection** of this 4cm encapsulated middle lobe lesion with intraoperative frozen section, which ruled out malignancy; final **histology** confirmed a myxoid based mesenchymal hamartoma mimicking intrapulmonary metastasis. (**Figure.4**)

Case 3: A **75-year-old** man with repeated bronchoscopies suggestive of adenocarcinoma presented with a **3.5-cm** subpleural nodule in **the left lower lobe**. **Lobectomy** with **lymph node dissection** revealed a complex hamartoma composed of mature hyaline cartilage, adipose tissue, smooth muscle, nerve fibers and foci of ossification; all resented lymph nodes were reactive and free of metastases. (**Figure.2, Figure.3**)

Case 4 : A **66-year-old** man, with coronary artery disease and a history of left pneumothorax and moderate hemoptysis, underwent a **right upper lobe lobectomy** for a **1.5-cm** lobulated mass. **Histological** examination revealed a purely endobronchial hamartoma with a cartilaginous-myxoid stroma, adipose tissue and entrapped bronchial epithelium, again without malignancy or nodal involvement. Across the series, resections were complete, and no relapse was observed during early follow up. (**Figure.1**)

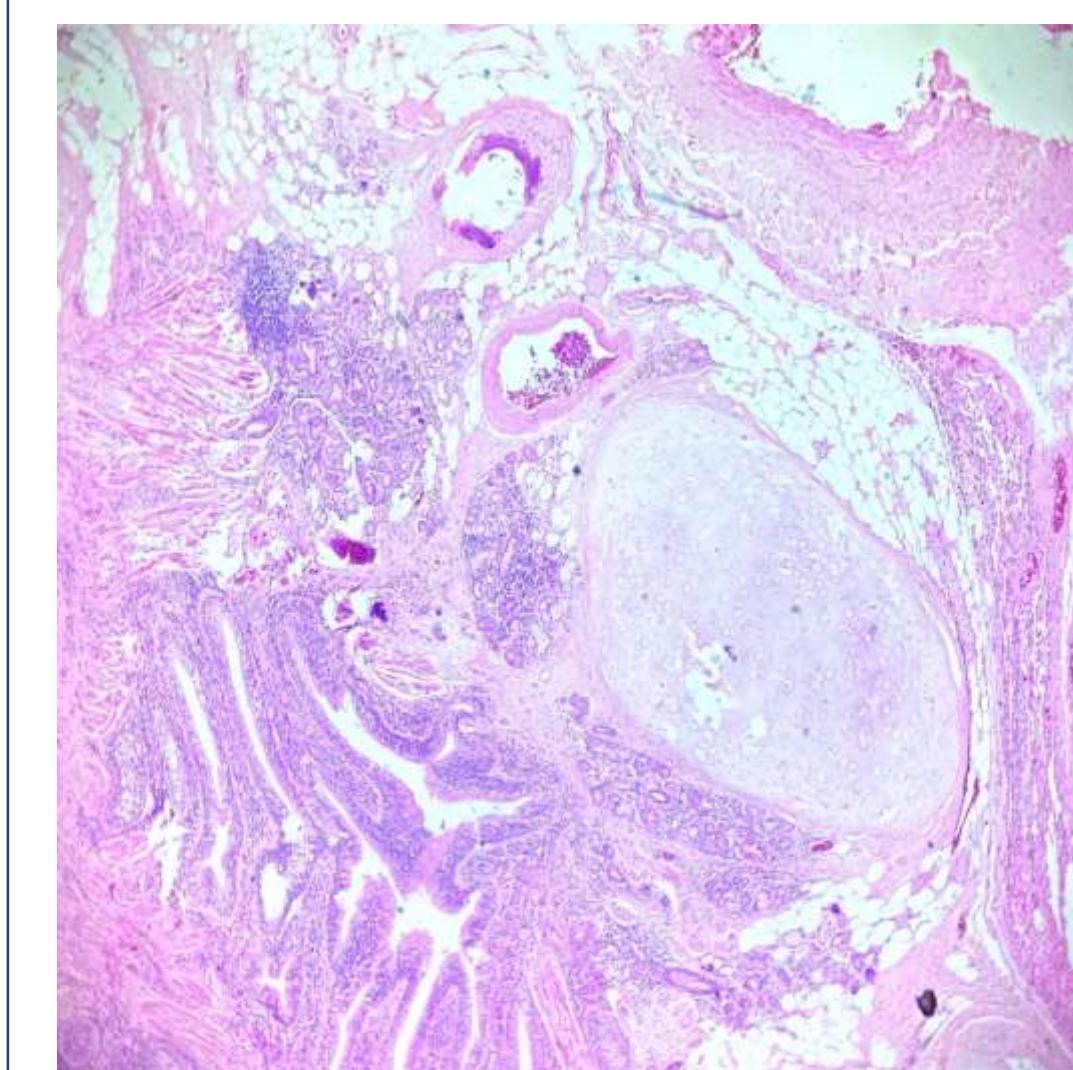


Figure 1
Low-power photomicrograph of a pulmonary hamartoma showing mature hyaline cartilage admixed with entrapped bronchial structures, including respiratory epithelium, seromucinous glands, smooth muscle bundles, and mature adipose tissue. H&E, x40.

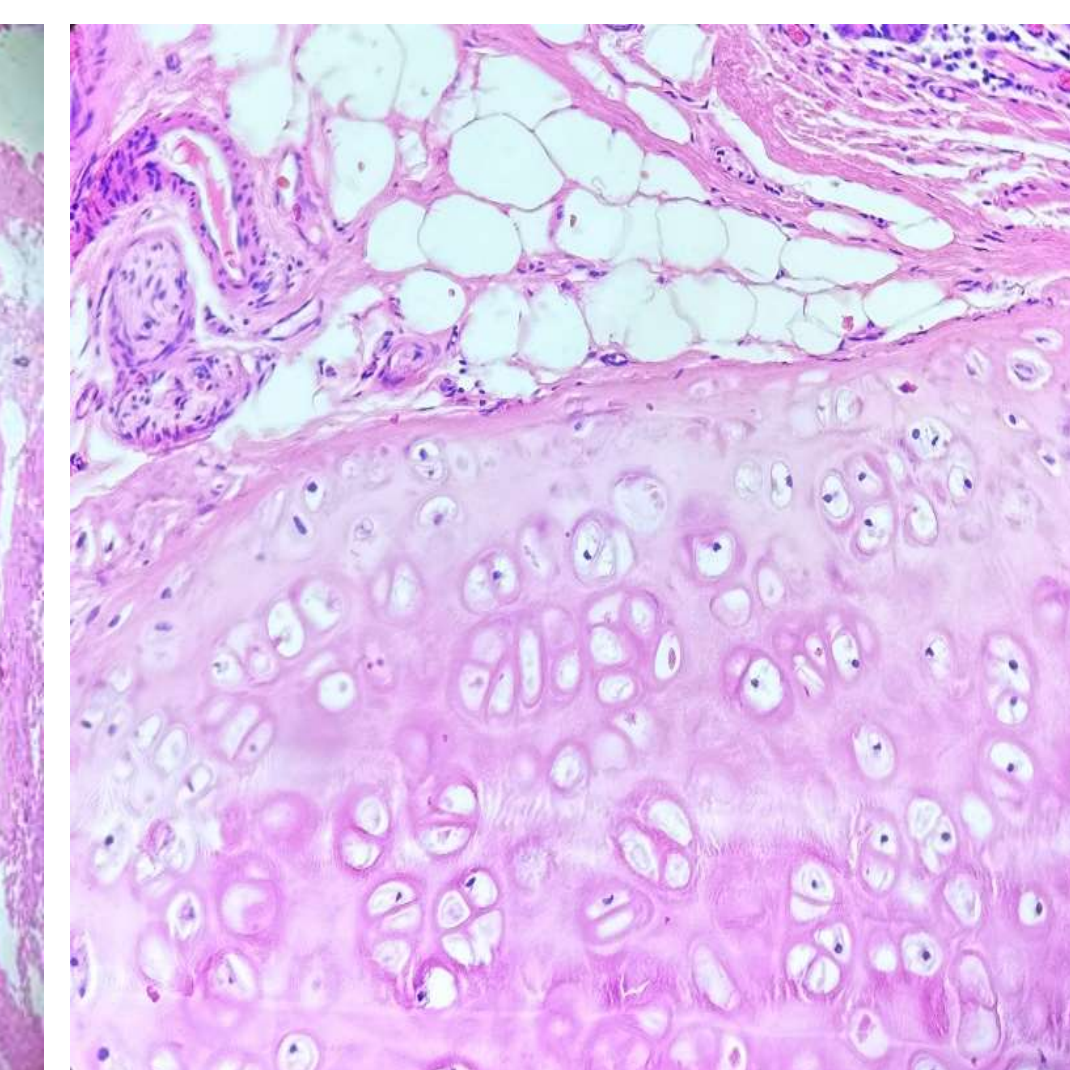


Figure 2
Mature hyaline cartilage adjacent to mature adipose tissue with an accompanying peripheral nerve bundle and small blood vessel. H&E, x200.

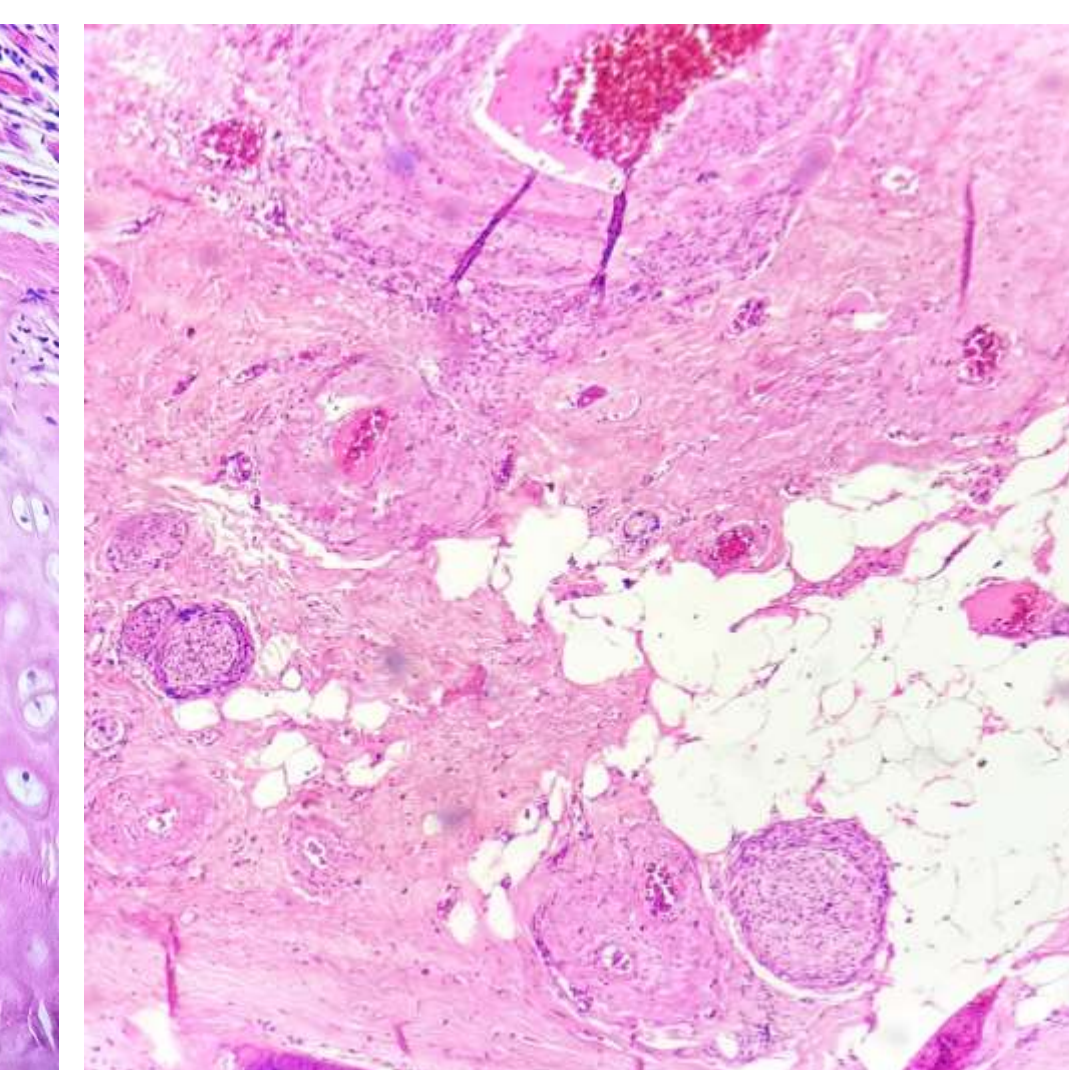


Figure 3
Peripheral nerve bundles embedded within bland spindle-cell collagenous stroma, admixed with mature adipose tissue and thick-walled blood vessels. H&E, x100.

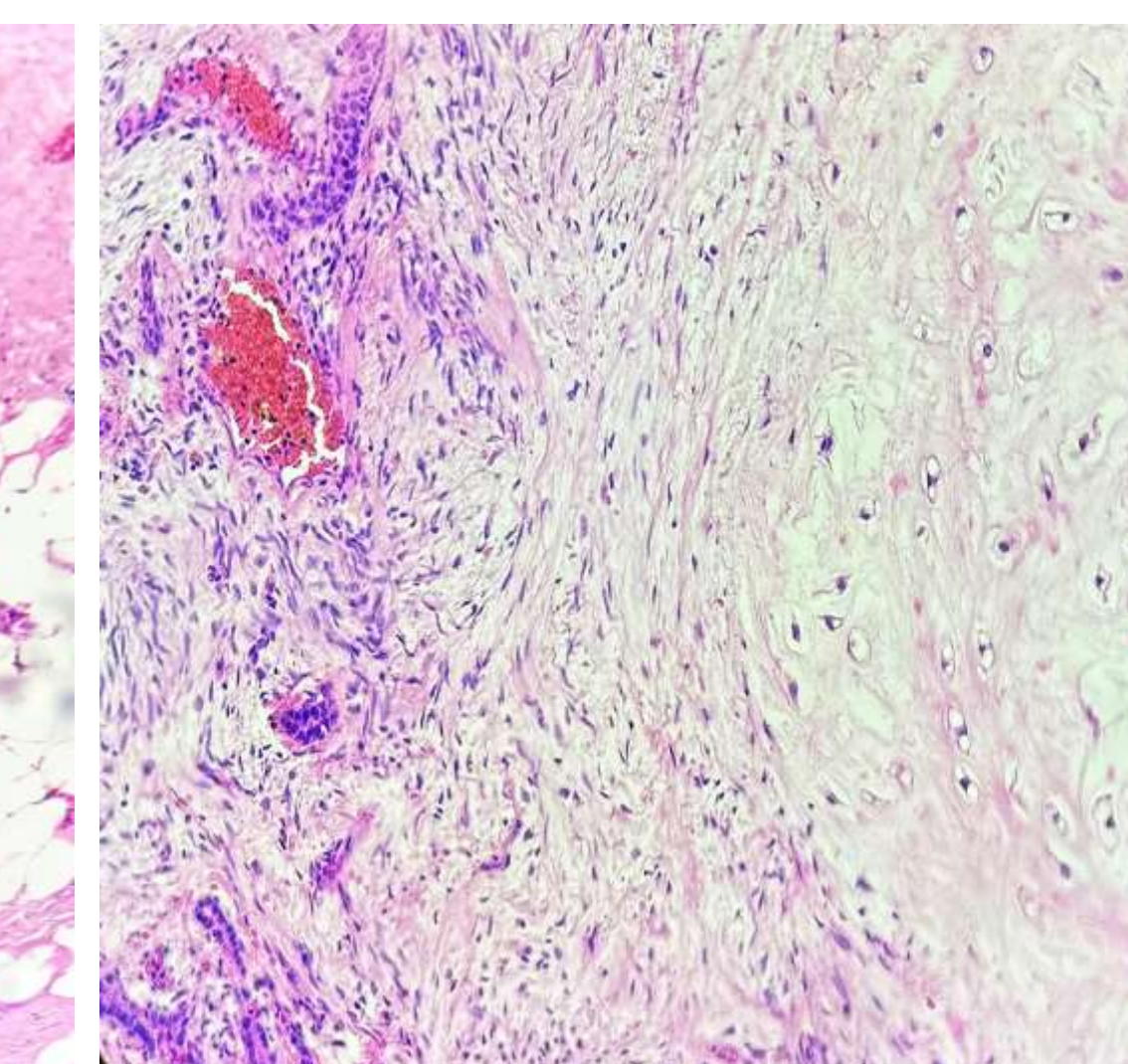


Figure 4
H&E, x200. Bland spindle-cell stroma with focal fibromyxoid change, entrapped benign respiratory epithelium, and mature hyaline cartilage.