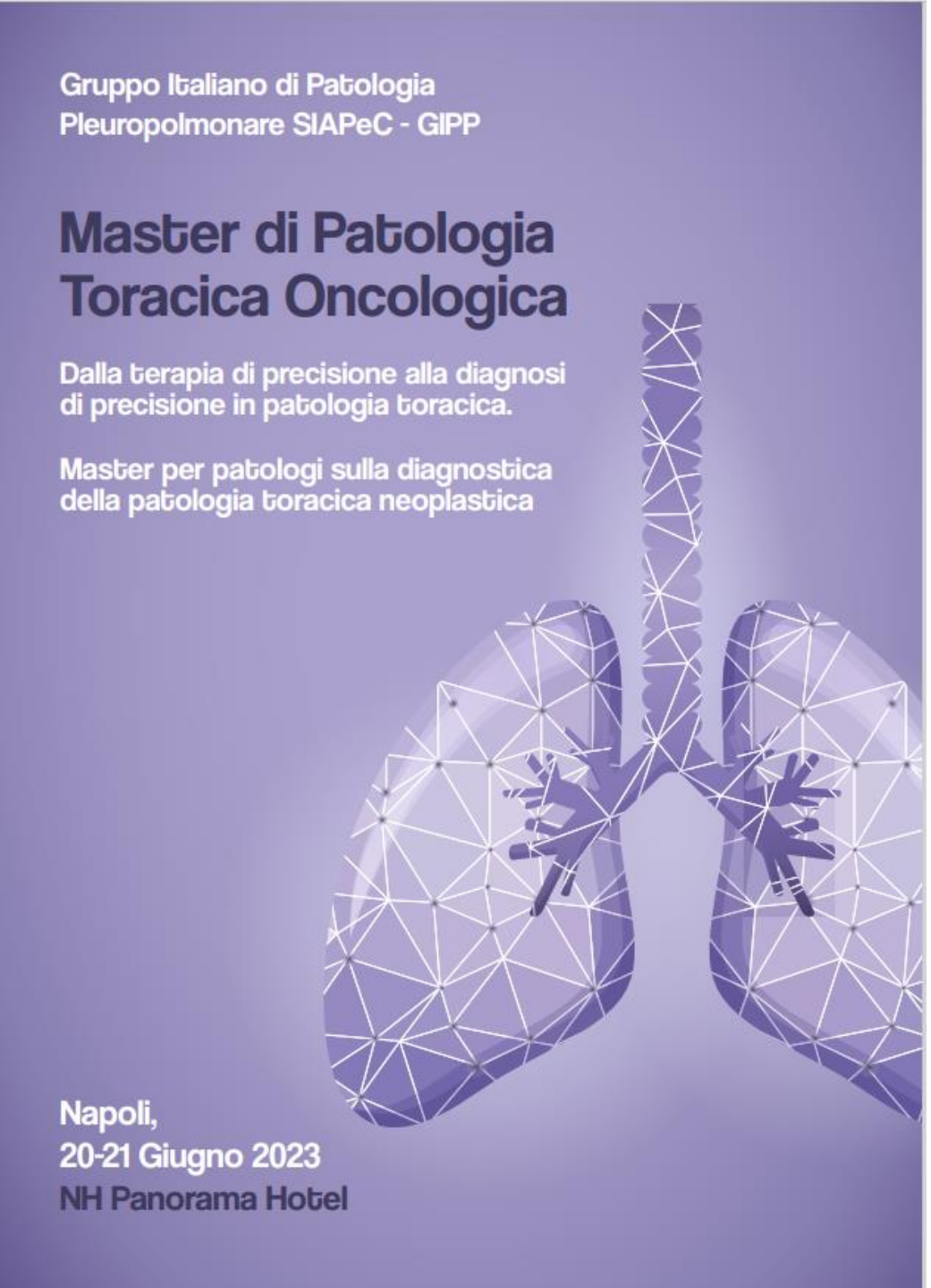

SAPIENZA
UNIVERSITÀ DI ROMA

A RARE PULMONARY LESION IN A PATIENT WITH PRIMARY ANTIPHOSPHOLIPID SYNDROME

SIAPEC - IAP

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CASE PRESENTATION

- a 46-year-old male admitted to another hospital for haemoptysis
- medical history was not otherwise significant
- familial history of diabetes
- the father died for MI at 50 year

CAUSES OF HAEMOPTYSIS

Infectious Diseases
Bacterial
Lung abscess*
Bronchitis*
Tuberculosis*
Bronchiectasis (including cystic fibrosis)
Chronic pneumonia
Viral
Fungal
Mycetoma
Parasitic
Paragonimiasis (in endemic areas)*

Cardiovascular Diseases
Left ventricular failure*
Pulmonary thromboembolism with infarction*
Mitral stenosis
Tricuspid endocarditis
Pulmonary hypertension
Aneurysms
Aortic aneurysm
Subclavian artery aneurysm
Left ventricular pseudoaneurysm
Vascular prostheses
Arteriovenous malformation
Portal hypertension
Absence of the inferior vena cava
Pulmonary artery agenesis with lung systemic vascularization

Neoplasms
Pulmonary carcinoma*
Squamous cell carcinoma
Small cell carcinoma*
Carcinoid tumor
Tracheobronchial gland tumors
Metastatic carcinoma/sarcoma

Trauma
Aortic tear
Lung contusion
Lithotripsy
Ruptured bronchus
Tracheocarotid fistula
Bronchoscopy
Swan-Ganz catheterization
Lung biopsy
Transtracheal aspirate
Lymphangiography
Hickman catheter–induced cavabronchial fistula

Immunologic Conditions
Vasculitides
Granulomatosis with polyangiitis/Wegener granulomatosis
Systemic lupus erythematosus
Microscopic polyangiitis
Goodpasture syndrome/antiglomerular basement membrane antibody syndrome
Idiopathic pulmonary hemosiderosis
Other lung-renal syndromes

Drugs and Toxins
Anticoagulants
Cocaine
Penicillamine
Trimellitic anhydride
Solvents
Amiodarone

Miscellaneous Entities
Increased bleeding tendency
Coagulopathy
Thrombocytopenia
Amyloidosis
Broncholithiasis
Endometriosis
Thoracic splenosis
Aspirated foreign body
Intralobar sequestration
Radiation
Lymphangiomyomatosis
Factitious
Bronchiolitis obliterans organizing pneumonia (BOOP)
Lipoid pneumonia

From Kevin O.Leslie, Mark R.Wick (2018). Practical Pulmonary Pathology: A diagnostic Approch, Third Edition. China: Elsevier

- haemoptysis may reflect a local or diffuse lung pathology
- as the differential diagnosis is broad, the consequences of accurate diagnosis are significant
- pulmonary embolus is usually high on the list of diagnostic possibilities

CASE PRESENTATION

- thoracic CT scan showed a nodule in the upper right lobe (18 mm) suspicious for a neoplasm
- wedge resection was performed
- histologic examination was consistent with a nonspecific chronic inflammation with a possible ischemic origin

CLINICAL FOLLOW-UP

- D-dimer and fibrinogen elevation imposed a thrombophilic screening
- triple aPL-positivity (LA, IgM aβ2GP1 and IgM aCL) suggested the diagnosis of primary antiphospholipid syndrome (APS)
- a second opinion at Sapienza Pathology Unit was required to plan the therapeutic strategy (antiaggregant alone or *plus* anticoagulant in the case of a pulmonary infarct)

Common pulmonary manifestations
- Pulmonary emboli and infarctions
- Pulmonary hypertension
- Adult respiratory distress syndrome (ARDS)
- Postpartum syndrome

Rare pulmonary manifestations
- Major pulmonary arterial thrombosis
- Fibrosing alveolitis
- Intra-alveolar pulmonary hemorrhage

Box 1 Definitions of medium-high antiphospholipid antibody (aPL) titres, and of high-risk and low-risk aPL profile

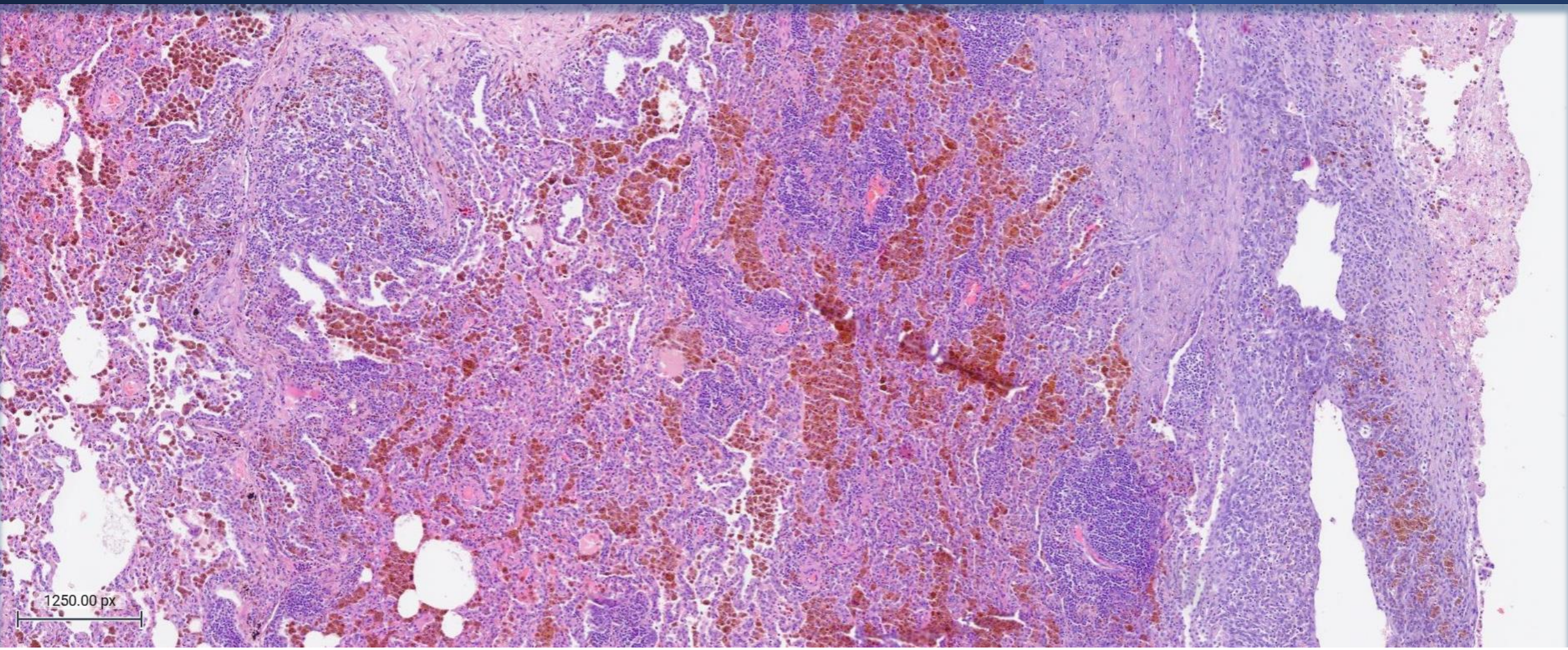
Medium-high aPL titres.
- Anticardiolipin (aCL) antibody of IgG and/or IgM isotype in serum or plasma present in titres >40 IgG phospholipid (GPL) units or >40 IgM phospholipid (MPL) units, or >the 99th percentile, measured by a standardised ELISA. Antibeta2 glycoprotein I antibody of IgG and/or IgM isotype in serum or plasma in titre >the 99th percentile, measured by a standardised ELISA.[1]

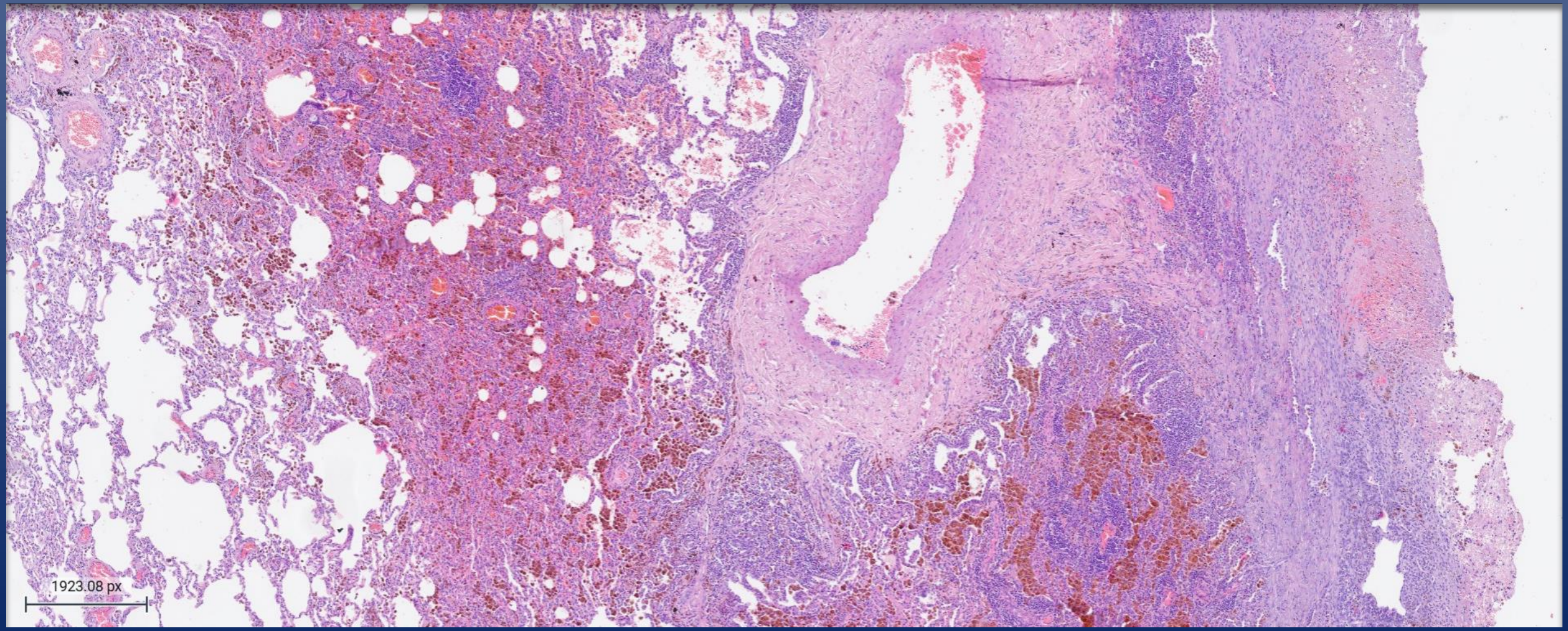
High-risk aPL profile.
- The presence (in 2 or more occasions at least 12 weeks apart) of lupus anticoagulant (measured according to ISTH guidelines), or of double (any combination of lupus anticoagulant, aCL antibodies or antibeta2 glycoprotein I antibodies) or triple (all three subtypes) aPL positivity, or the presence of persistently high aPL titres.

Low-risk aPL profile.
- Isolated aCL or antibeta2 glycoprotein I antibodies at low-medium titres, particularly if transiently positive.[3]

MG Tektonidou et al.(2019).EULAR recommendations for the management of antiphospholipid syndrome in adults.78-10:1296-1304.

HISTHOLOGICAL EXAMINATION

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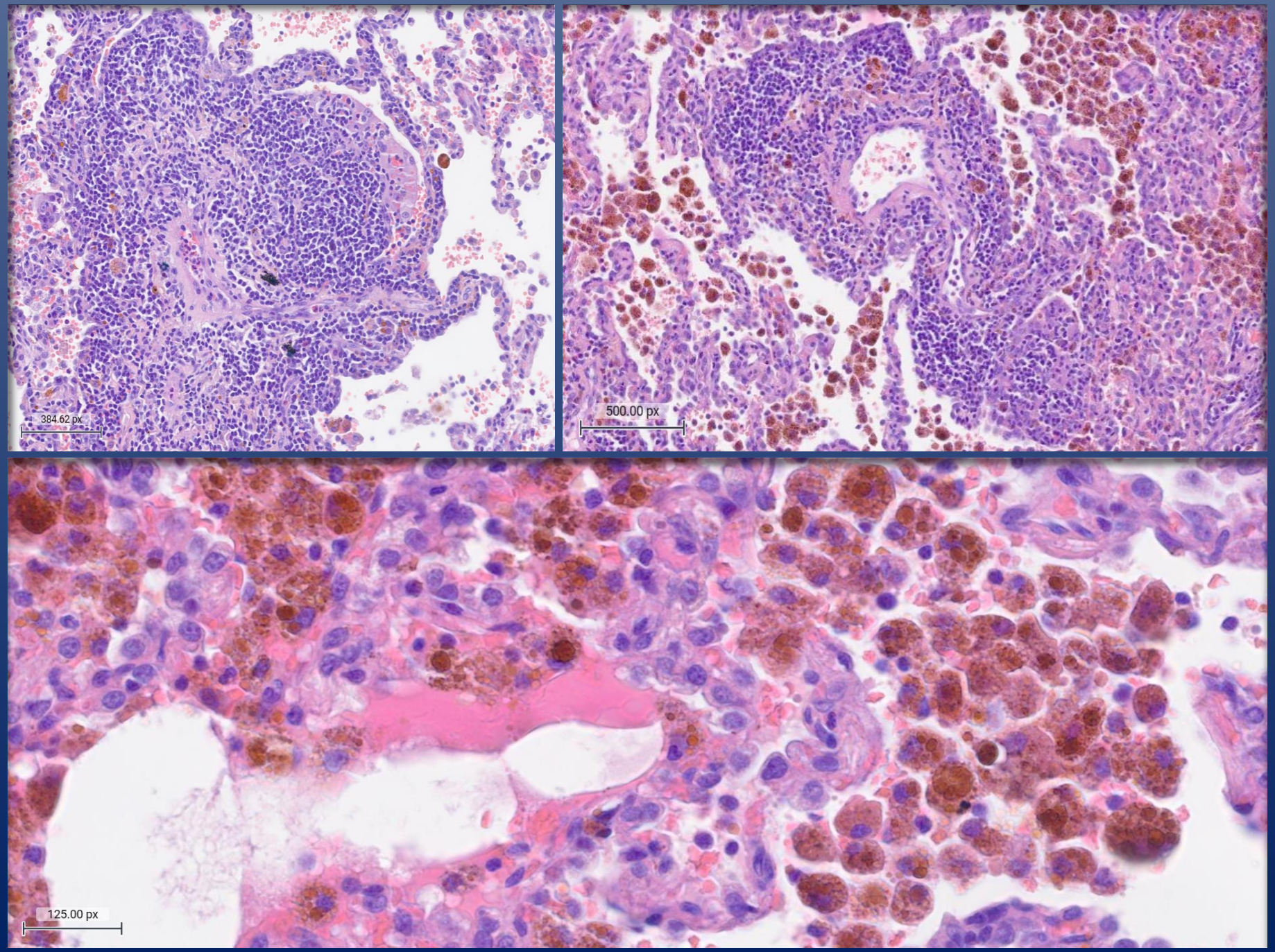
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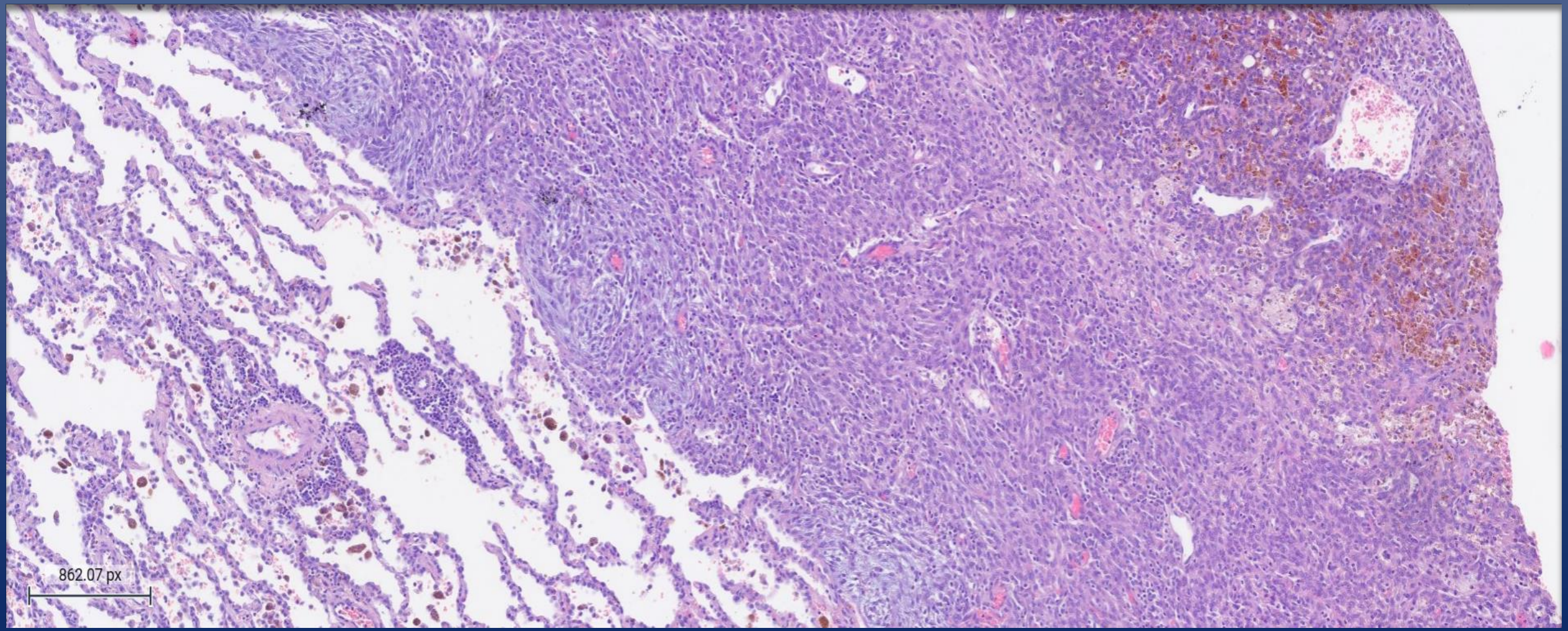
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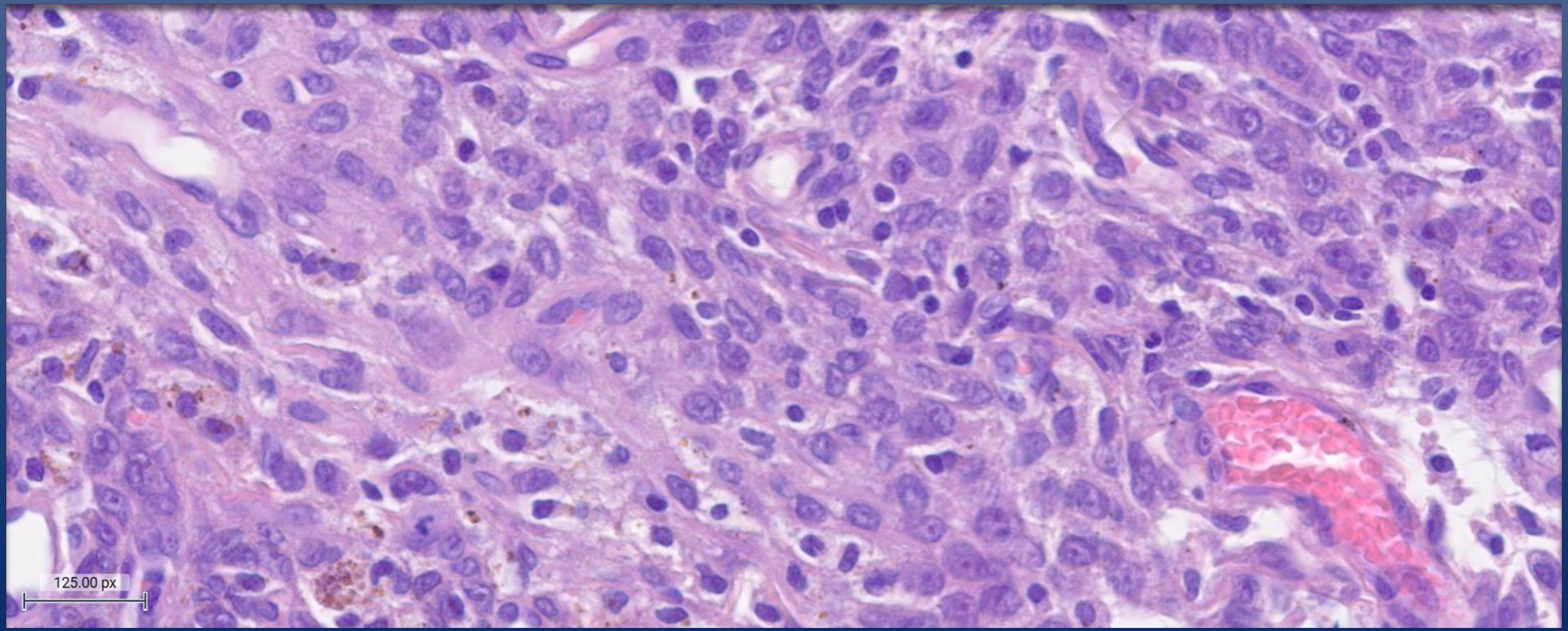
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DIAGNOSTIC HYPOTHESES

Smooth muscle proliferations in the lung ?

Immunoglobulin G4-predominant lymphoplasmacytic lesions ?

Inflammatory myofibroblastic tumour ?

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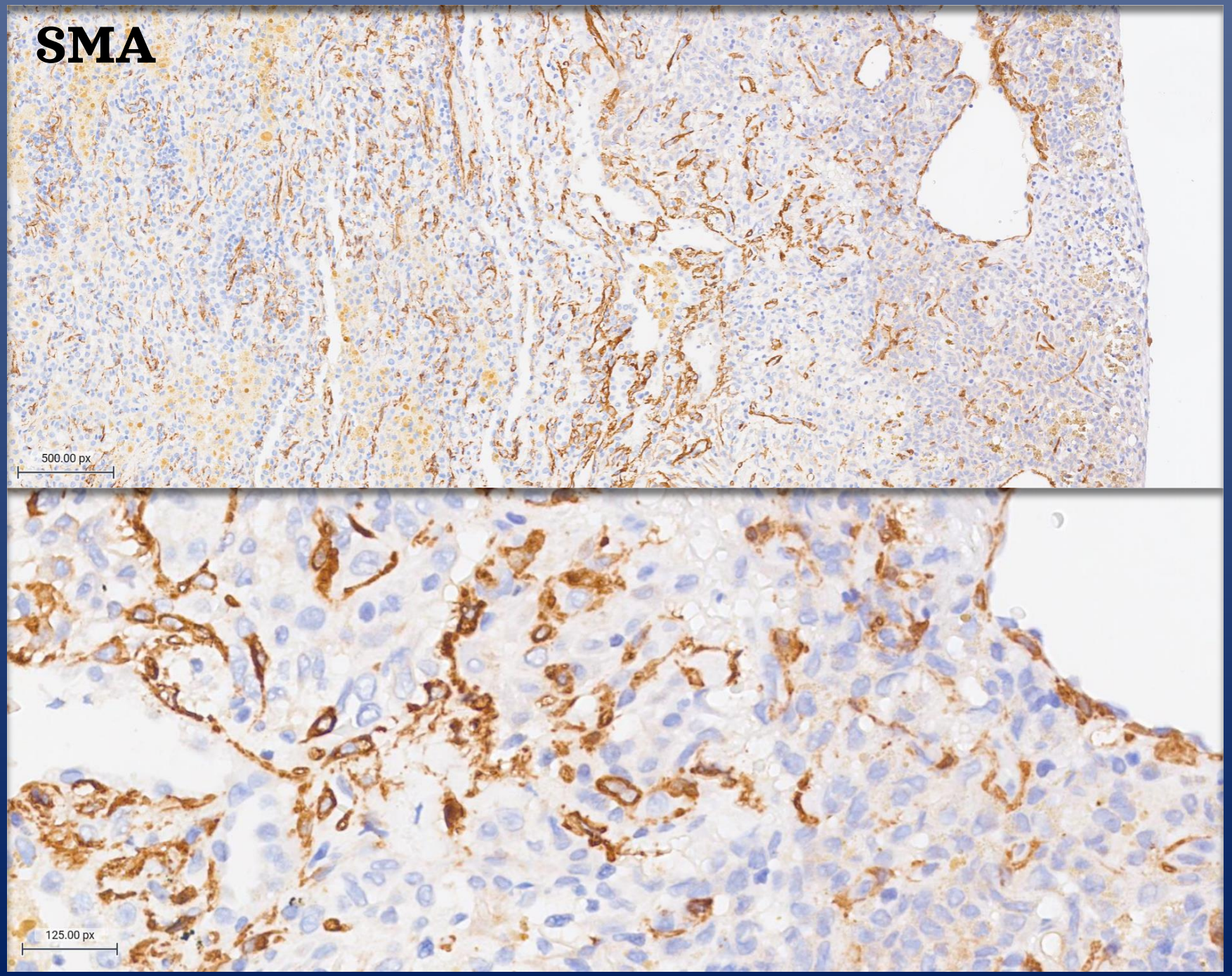
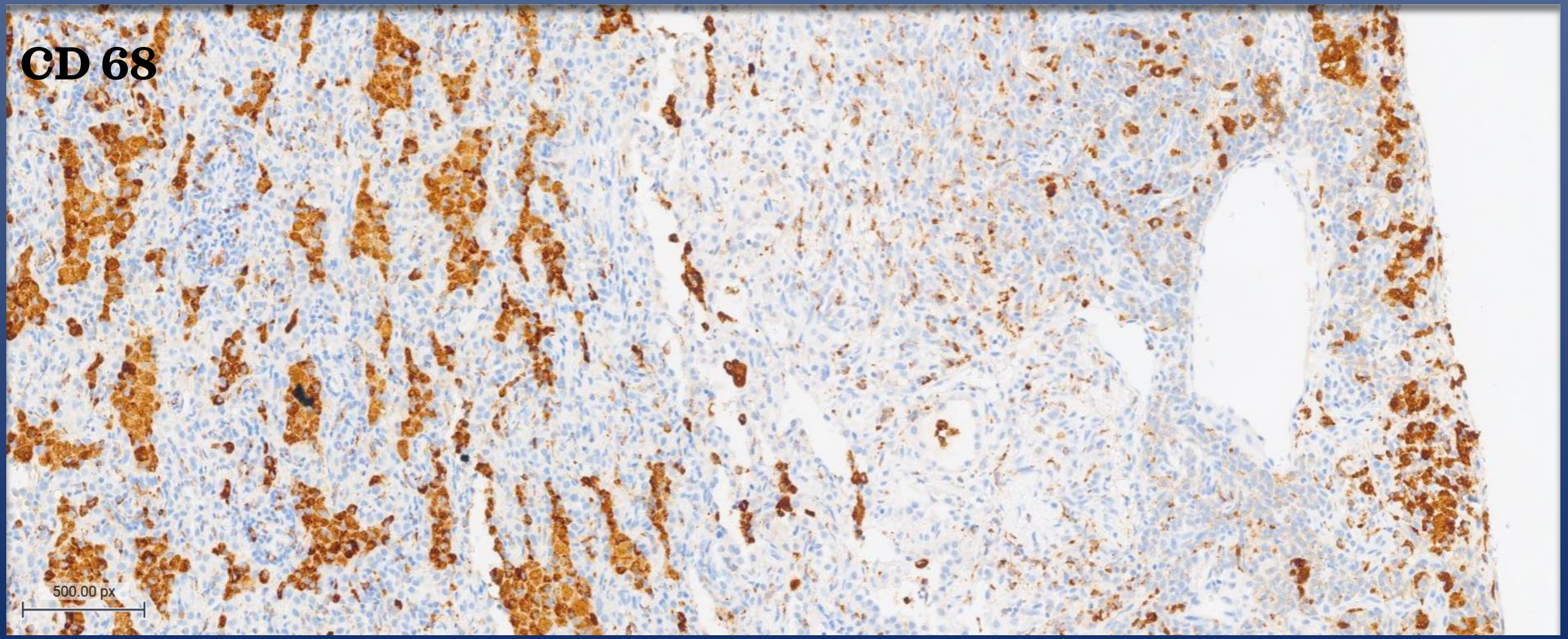
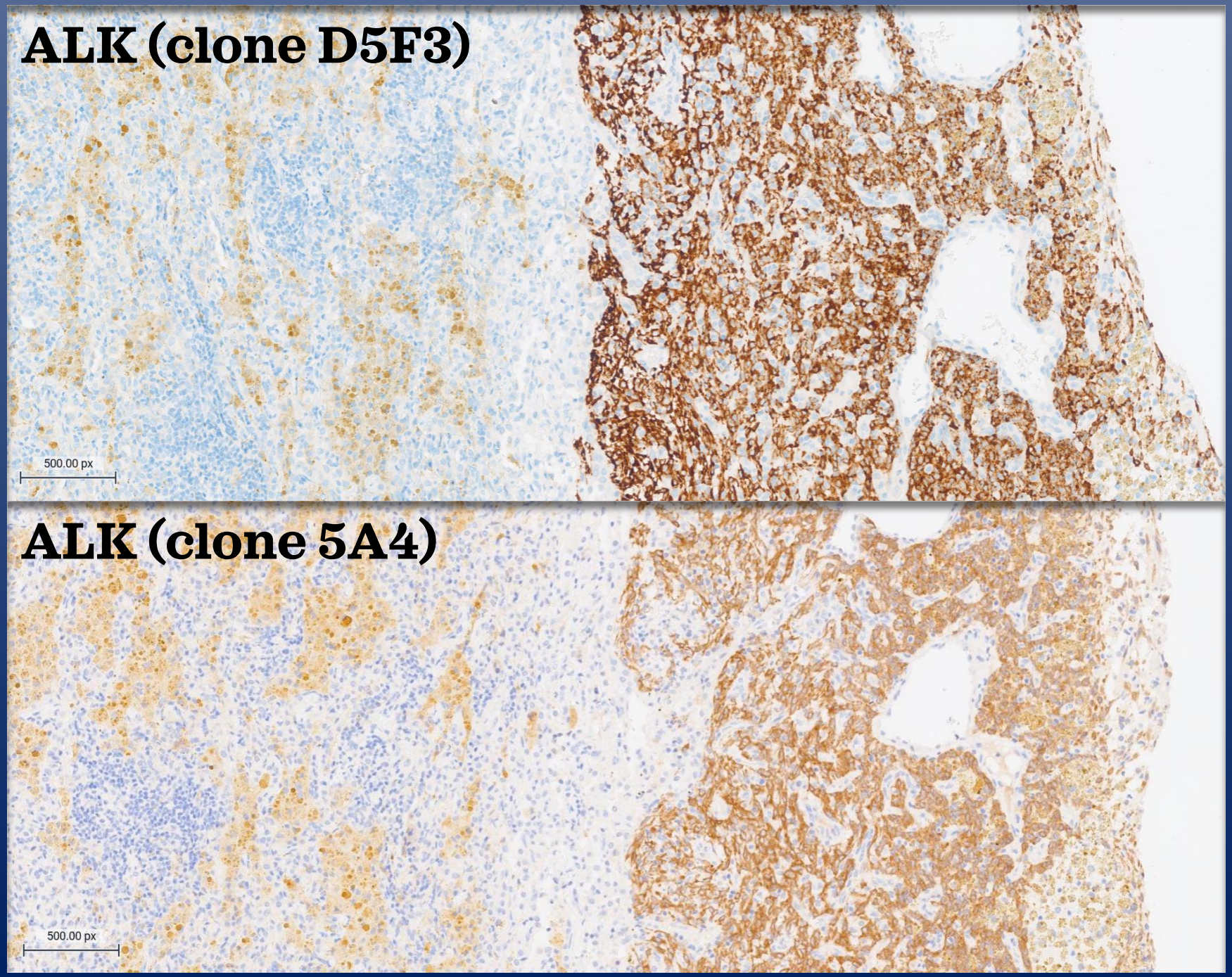
SMA





Immunohistochemistry for **CKAE/AE3, S100, CD34, desmin, CD1a, langerin, IgG4** were negative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INFLAMMATORY MYOFIBROBLASTIC TUMOR

ELSEVIER

Journal of Thoracic Surgery
Volume 9, Issue 2, December 1939, Pages 119-131

Original Communications

TWO INTERESTING BENIGN LUNG TUMORS OF CONTRADICTORY HISTOPATHOLOGY: Remarks on the Necessity for Maintaining the Chest Tumor Registry

Harold Brunn M.D.

San Francisco, Calif.

Received 12 August 1939, Available online 16 July 2020, Version of Record 16 July 2020.

Histopathology

Volume 8, Issue 6
November 1984
Pages 903-916

The pulmonary plasma cell/histiocytoma complex

H. SPENCER

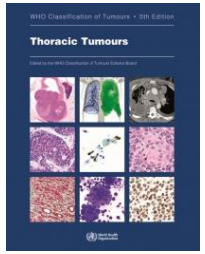
First published: November 1984 | https://doi.org/10.1111/j.1365-2559.1984.tb02409.x | Citations: 138

Case Reports > Mod Pathol. 1998 Apr;11(4):364-8.

Inflammatory myofibroblastic tumor: cytogenetic evidence supporting clonal origin

L D Su [1], A Atayde-Perez, S Sheldon, J A Fletcher, S W Weiss

Inflammatory myofibroblastic tumour (IMT) is a distinctive, rarely metastasizing neoplasm composed of myofibroblastic and fibroblastic spindle cells, usually accompanied by a stromal inflammatory infiltrate of plasma cells and lymphocytes



MOLECULAR CONFIRMATION

- In addition to immunohistochemical detection of ALK protein, molecular assays for ALK may be used to confirm the diagnosis

- In 50–60% of cases of IMT, the tumours harbour clonal cytogenetic rearrangements, involving chromosome band 2p23, that fuse the 3′ kinase region of the ALK gene with various partner genes

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THE JOURNAL OF Pathology — A Journal of The Pathological Society Understanding Disease

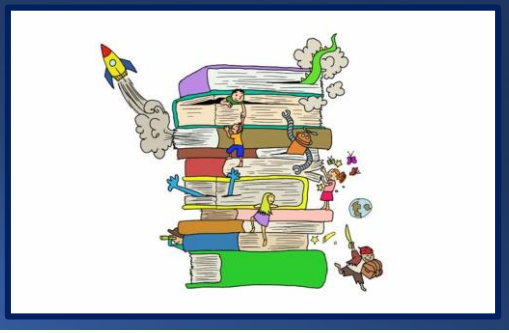
Volume 241, Issue 3
February 2017
Pages 316-323

Brief Definitive Report

ALK oncoproteins in atypical inflammatory myofibroblastic tumours: novel RRBP1-ALK fusions in epithelioid inflammatory myofibroblastic sarcoma

Jen-Chieh Lee, Chien-Feng Li, Hsuan-Ying Huang, Mei-Jun Zhu, Adrián Mariño-Enríquez, Chung-Ta Lee, Wen-Bin Ou, Jason L Hornick, Jonathan A Fletcher

TAKE HOME MESSAGES



- unique case of pulmonary IMT in primary APS
- histologic pattern of lung lesions can be very challenging

ALVEOLAR SIDEROPHAGES + LYMPHOPLASMACYTIC INFILTRATE

- integration of morphological, immunohistochemical and molecular features is the tool for the precise diagnosis and the proper classification of pathologic entities

THANK YOU FOR YOUR ATTENTION !