Clinical data:
76 years old female patient in good general condition with moderate smoking habits since more than 20 years complains on respiratory distress, chronic bronchitis and night sweats. X-ray and throrax CT reveal a centrally localized nodular tumor mass of 4 cm in diameter with contact to the left upper lobe bronchus.

Two bronchoscopic biopsies and three cytologies showed reactive changes and no tumor tissue.

Nevertheless because of the strong clinical suspicion of a bronchial malignant tumor a surgical tumor resection was perfomed which implied a left pneumonectomy with lymphadenectomy.
Case # 4 c‘ted

Macroscopical findings:
Left pneumonectomy (16 X 13 X 8 cm) showing a nodular, firm, circumscribed tumor in the hilar region attached to the upper lobe bronchus and covered by the pleura. On cut surface the tumor is greyish/white and contains some anthracotic pigment. No invasion of blood vessels.
Nine lymph nodes at the pneumonectomy specimen and 5 separated lymphnodes showed anthracosis, no tumor infiltration
Differential diagnosis (E 4106/06)

• Solitary fibrous tumor
• Inflammatory myofibroblastic pseudotumor (ALK1 +/-)
• Silicosis / Anthrakosilicosis
• Hodgkin lymphoma
• ?
Case # 5 ( E 4104/06)

Microscopic findings:
Highly sclerotic circumscribed tumor tissue involving the adventitia of large pulmonary vessels and the peribronchial space but not involving the pulmonary tissue. In a central localization of the tumor a more cellular area shows partial obliteration and destruction of a pulmonary vein and granulation tissue with mixed inflammatory exudate rich in plasma cells.

The more peripheral fibrosclerotic part of the tumor consists of hyalinized collagenous tissue containing few fibroblasts some pigmented macrophages , sometimes in clusters.

The margins to hilar soft tissue again shows a focal lympho-plasmacellular inflammatory reaction.
"extrapulmonary" sclerotic nodular tumor with close connection to bronchi
Inflammatory infiltration and partial destruction of a pulmonary vein
Cellular infiltration and granulation tissue in a pulmonary vein
IgG4 : 72 %
IgG4 : 72 %
Diagnosis case # 4 (E 4106/06)

IgG4-related mediastinal/pulmonary sclerosing pseudotumor
Clinical data:
36 years old female patient in good health condition complains of ill-defined respiratory distress.
A routine X-ray and later CT-based investigation shows a round, well circumscribed nodular lesion in the right upper lobe.
Bronchoscopic biopsy shows respiratory mucosa and bronchial wall without tumor tissue. Bronchial cartilage is degenerated and not suspicious for a benign chondromatous hamartoma (clinical suspicion)
Clinical differential diagnosis: tumor (any kind), tuberculoma,?
Discussion Case (E 17512/06)

Macroscopical and microscopical findings:
Surgical resection of upper right lobe (13 X 9 X 3,5 cm). 1,5 cm distal of bronchial resection margin a roundish, white-yellow coloured tumor of 2,8 cm in diameter sharply demarcated to adjacent lung tissue.

Microscopically, a cellular tumor consisting of storiform bundles of spindle cells intermingled with sheets of plasma cells and a focally lympho-plasmacellular component, containing also some lymphoid follicles.
Inflammatory myofibroblastic pseudotumor of lung, ALK1-

Comment: Inflammatory myofibroblastic pseudotumor may be difficult to distinguish from IgG4-RSD in routine sections, as plasma cell component may be similar, but IgG4 stain is consistently negative (range 2-6 % of total plasma cells). Note the cellular myofibroblastic, rather uniform tumorous component in the background (SMA,Vimentin +).
IgG4-associated diseases of Lung and Mediastinum

• Types of manifestation:
  – Inflammatory Pseudotumor
  – Idiopathic interstitial Pneumonia
    • Non-specific interstitial pneumonia
    • Kryptogenic organizing pneumonia
  – Fibrosing (sclerosing) Mediastinitis
IgG4-associated diseases of Lung and Mediastinum

• Clinical Findings:

  – Mean age ~69 years
  – Male predominance
  – No predisposing factors known
  – Cough, Dyspnoe, thoracic pain (~ 50%)
    ➔ nonspecific signs
IgG4-associated diseases of Lung and Mediastinum

- 3 Histological Types:
  - **Solid nodular type:**
    - Hilar or peripheral mass forming lesion
    - typical lymphoplasmacellular Infiltration:
      » Lymphocytes and IgG4+PC infiltrate adjacent alveoli and blood vessels
    - Nodular Fibrosclerosis (may involve bronchi, pulmonary veins and arteries and peribronchoial or glands)
  - **Bronchovascular type:**
    - Lymphoplasmacellular infiltration accompanying lymph vessels
      ➔ interstitial extension to bronchovascular structures, interlobular septae and pleura
  - **Alveolar-interstitial type:**
    - Lymphoplasmacellular Infiltration limited to alveolar walls
IgG4-associated diseases of Lung and Mediastinum

- **Radiological findings:**
  - Soiltary or multiple nodular infiltrates or consolidation
  - Rounded Shadows
  - Bronchiectasia or interlobular septal densifications
  - Hilar Lymphadenopathy

- **Clinical differential diagnosis:**
  - Inflammatory myofibroblastic tumor (ALK+/−)
  - Infections
  - Sarkoidosis
  - Wegener Granulomatosis
  - Silikose/ Anthrakose
The spectrum of IgG4 RSD (Y.Sato et al. 2010)

- Pachymeningitis
- Hypophysitis
- Lacrimal gland lesion (Mikulicz’s disease)
- Sclerosing sialadenitis (Küttner tumor)
- Thyroid gland
- Pulmonary lesions
- Mastitis
- Autoimmune pancreatitis
- Hepatitis
- Sclerosing cholangitis
- Retroperitoneal fibrosis
- Prostatitis
- Inflammatory aortic aneurysm
- Tubulointerstitial nephritis
- Lymphadenopathy
- Skin Lesion
- Etc.


PTI=pseudo-tumeur inflammatoire; les atteintes les plus fréquemment rapportées sont signalées en rouge