



# Chronic Pulmonary Aspregillosis (CPA)

**George Dimopoulos MD, PhD, FCCP, FCCM**

Prof Critical Care Medicine

Critical Care Department,

University Hospital ATTIKON at Haidari, Athens-Greece

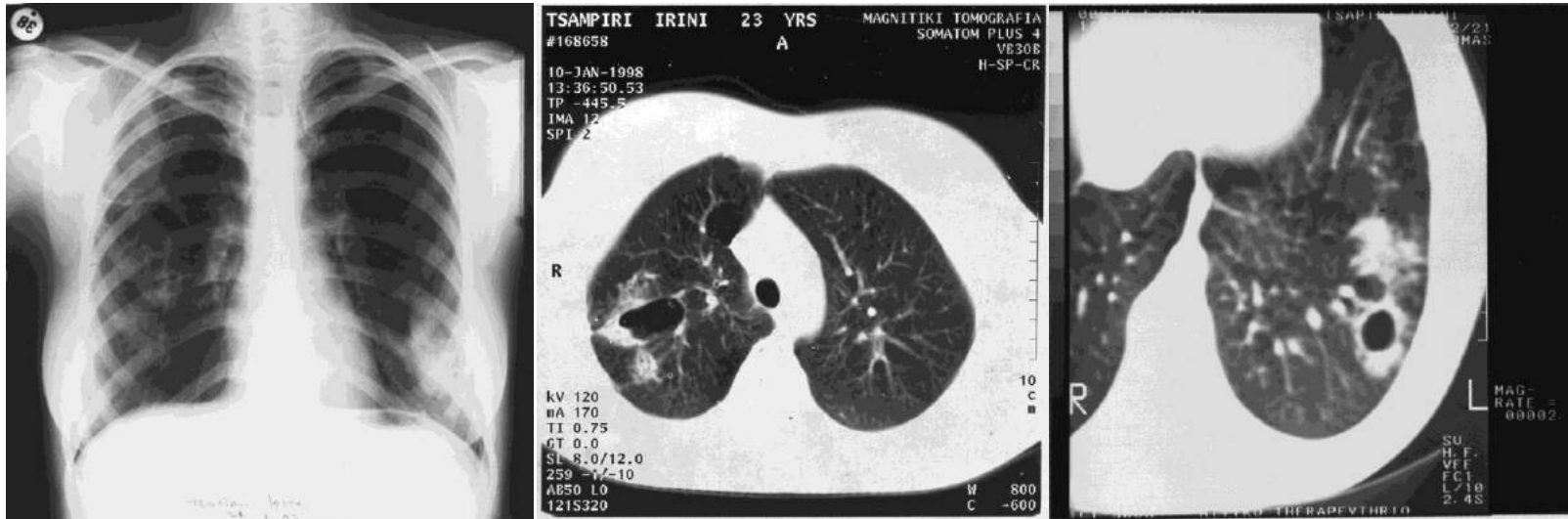
Medical School, National and Kapodistrian University of Athens, Greece

[gdimop@med.uoa.gr](mailto:gdimop@med.uoa.gr)



# Chronic Pulmonary Aspergillosis (CPA)

## CPA- Imaging findings / Multiple aspergillomas



Female 34 years old, medical history of TB

- Anti-TB treatment for 12 months (1996)
- Recurrent hemoptysis (since 2000)
- Respiratory functioning tests : mild obstruction
- Rx : PO itraconazole for 3 months



# Chronic Pulmonary Aspergillosis (CPA)

## CPA- Imaging findings / CCPA

### I. Typical appearances of CCPA

- a. unilateral or bilateral areas of consolidation
- b. multiple expanding usually thick-walled cavities that may contain one or more aspergillomas
- c. concomitant pleural thickening of variable extent

### II. Thickened pleura

- a. frequently associated with abnormally dense extra pleural fat
- b. may not be differentiated in some cases from the neighbouring alveolar consolidation or the wall of the cavities.

### III. Asymmetric findings

- a. predominantly located in the areas with pre-existing anomalies related to the underlying pulmonary disease

### IV. Radiological evolution

- a. slower and may take several years

### V. Differential diagnosis

TB, NTM, histoplasmosis, actinomycosis, coccidioidomycosis and lung carcinoma



# Chronic Pulmonary Aspergillosis (CPA)

## CPA- Imaging findings / CCPA



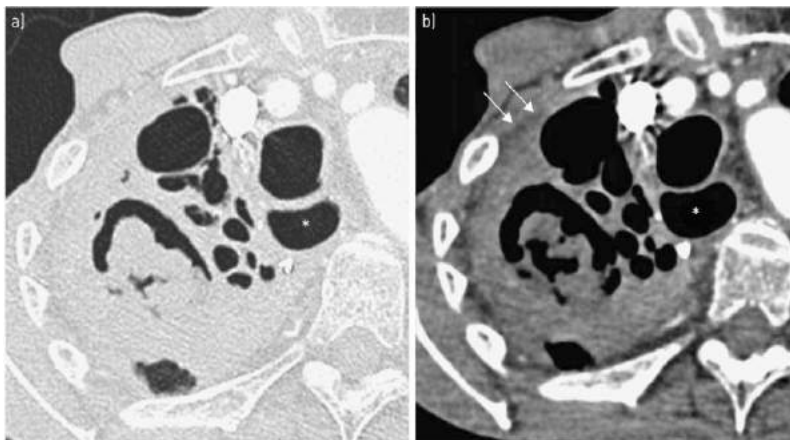
**CCPA a) 2007 and b) 2012.**

**Left in both images**

A large cavity with pleural thickening with additional small cavities and contraction of the left upper lobe.

**Right side**

Interval development of a large cavity, with some pleural thickening. Neither cavity contains a fungal ball

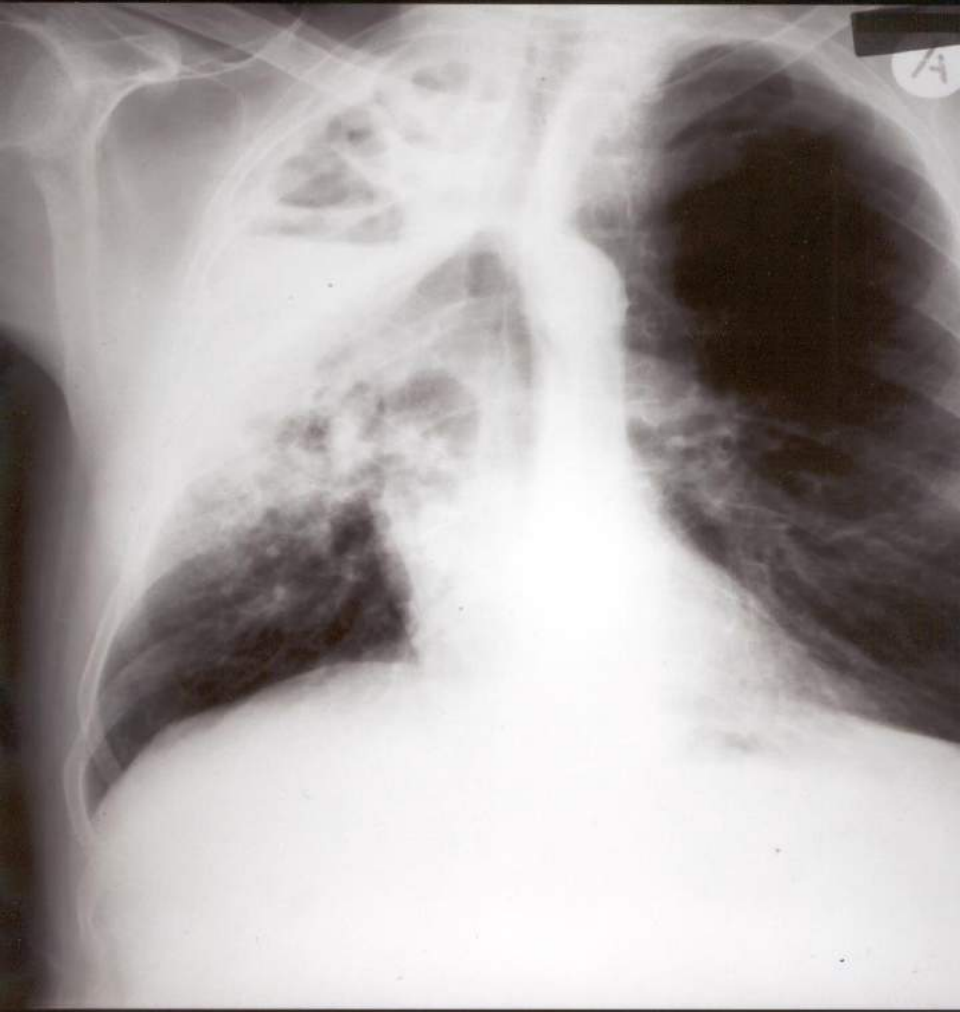


**Lung window**

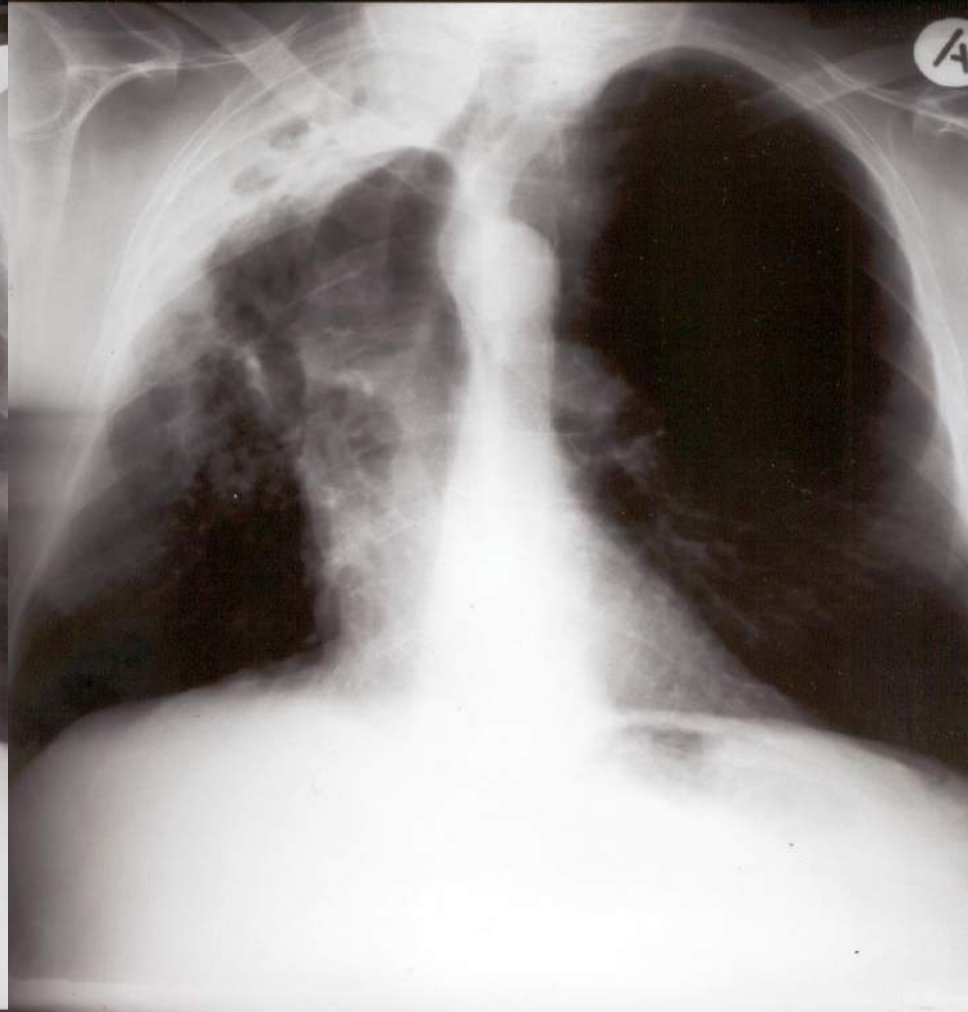
**Mediastinal window**

**CCPA (axial view) at the level of RUL**

- Multiple cavities
- Fungus ball lying within the largest one.
- The wall of the cavities cannot be distinguished from the thickened pleura or the neighbouring alveolar consolidation
- The extra pleural fat is hyperattenuated (white arrows).



A COPD patient with history of  
TBC and steroids treatment. Antibiotic  
treatment for infectious exacerbation.  
Bronchial secretions and Ag GM  
*Aspergillus* (+)



Treatment with Voriconazole  
Duration of therapy ; 6 months  
Final diagnosis : CCPA



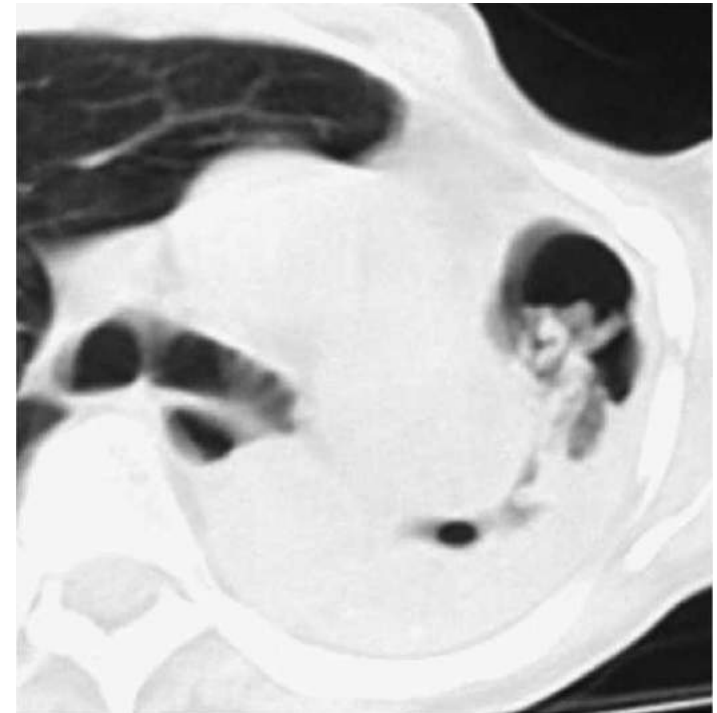


# Chronic Pulmonary Aspergillosis (CPA)

## CPA- Imaging findings / CFPA

### CFPA = terminal evolution of CCPA

- When CCPA remains untreated
- Resulting in extensive pulmonary fibrosis
- The fibrosis may be limited to one or both upper lobes but also commonly involves the whole hemithorax
- There is no distinctive feature of fibrosis related to CPA, other than the cavitation and fungal balls seen in close proximity



CFPA with atelectasis and fibrosis of the whole left lung, secondary to untreated CCPA.

The cavity contains strands of *Aspergillus*.