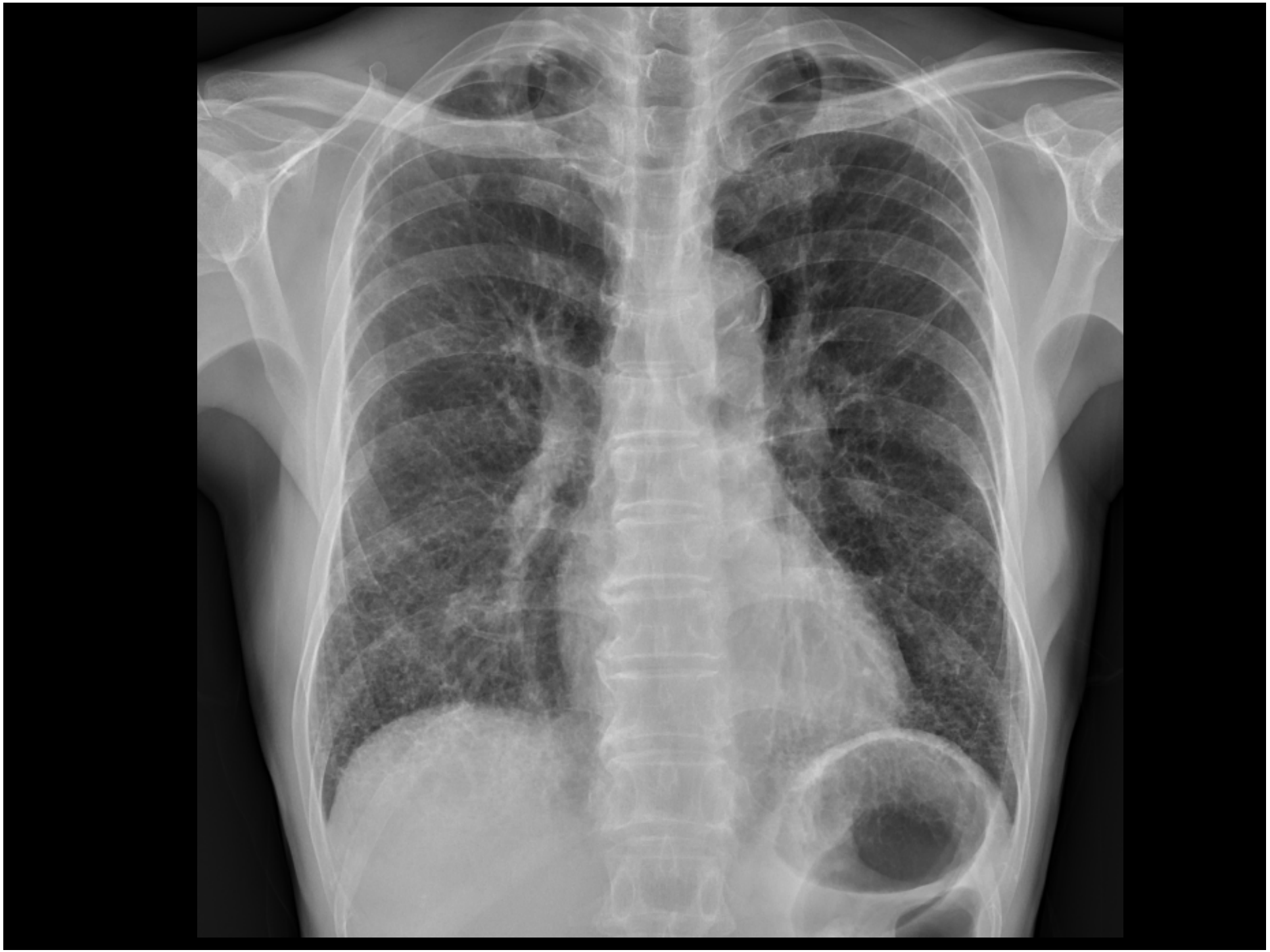
CASE 3
76 Y/O MAN

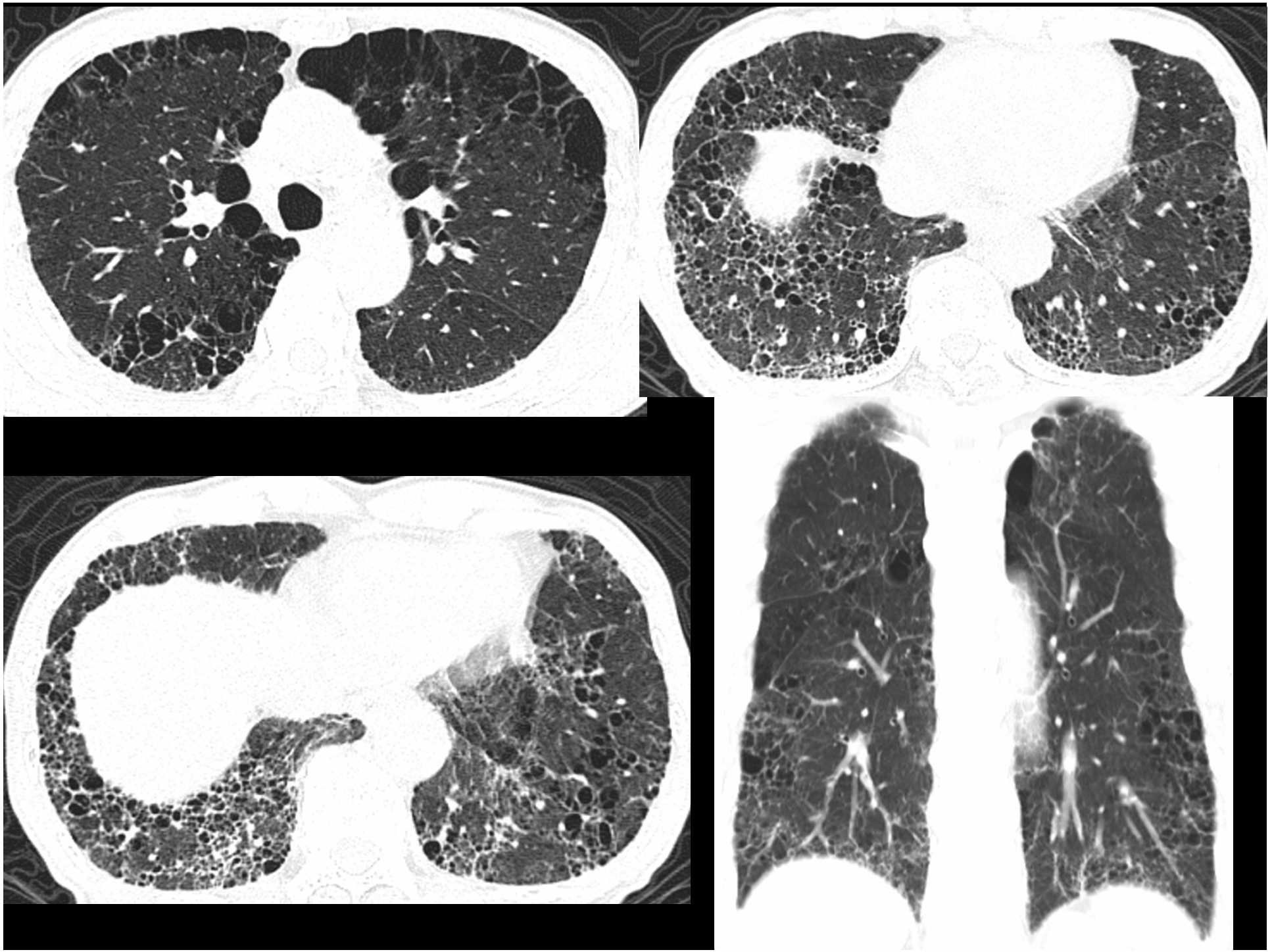
Brief history

- 76 years old man
- PH:
  - Bladder cancer
- Personal profile
  - smoking(+) for decades
  - 水電工, 油漆, 粉塵
- Chief complain
  - Dyspnea on exertion, repeat productive cough for many years

Imaging

- CXR
- chest CT NoC





DDx:

- Pneumoconiosis
- Chronic obstructive pulmonary disease (COPD)
- Usual interstitial pneumonia (UIP)

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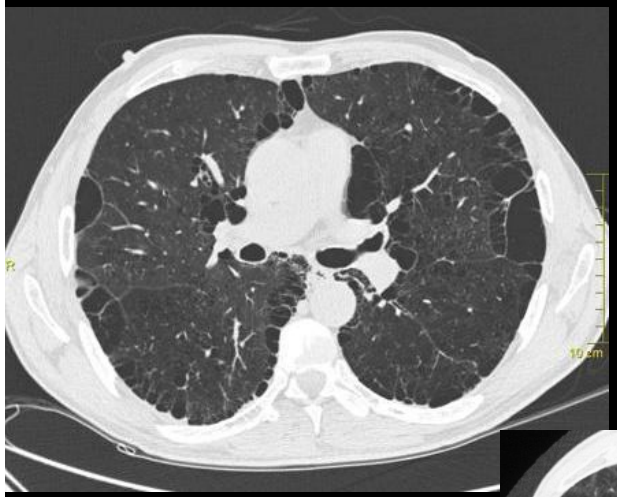
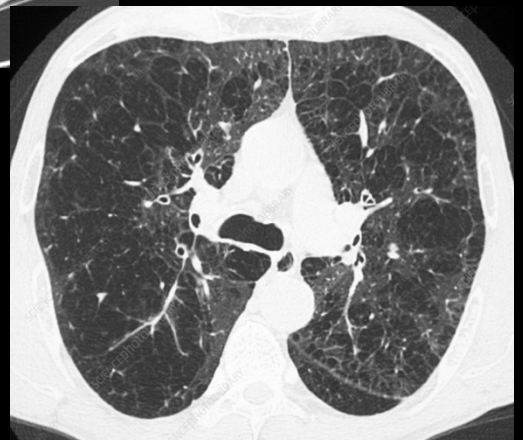
COPD: Diagnostic criteria

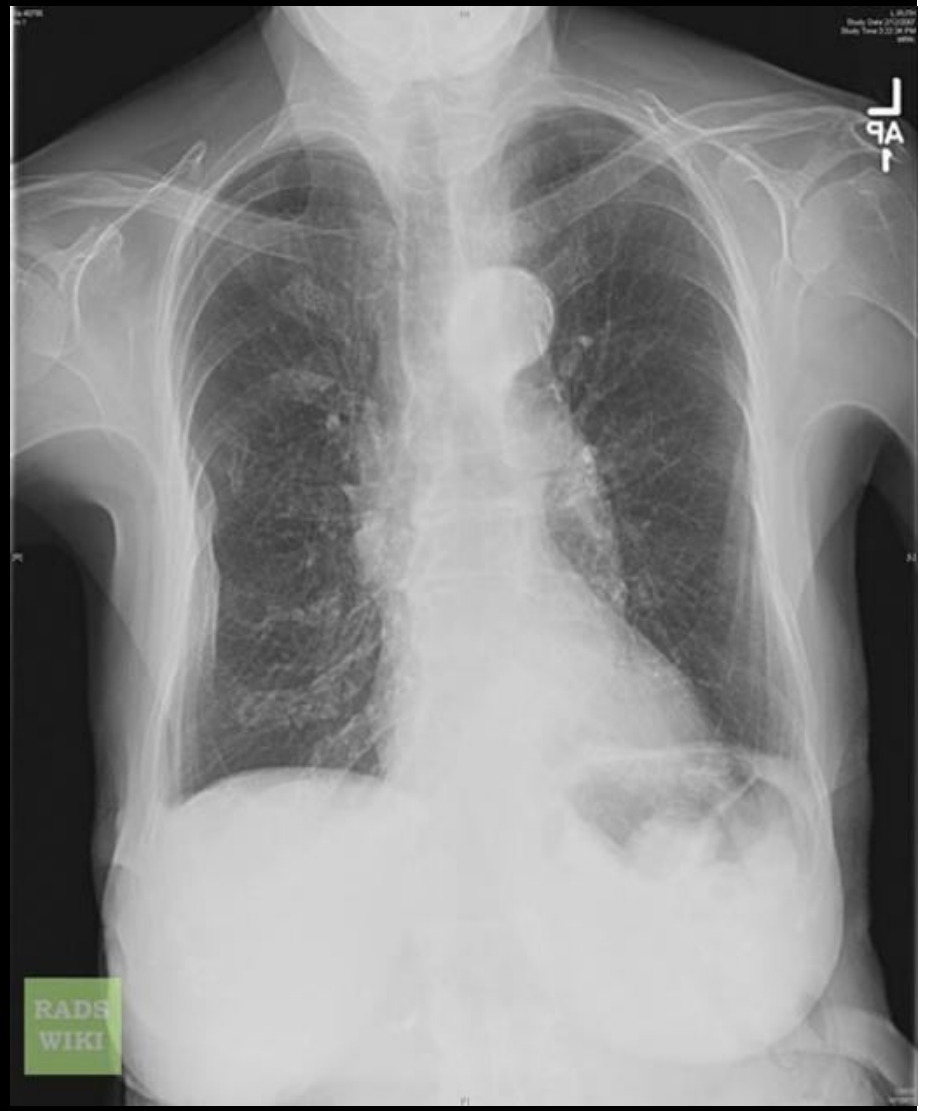
- Global Initiative for Chronic Obstructive Lung Disease (GOLD) criteria :
  - FEV1/FVC ratio of <0.70 : commonly considered diagnostic for COPD.
    - GOLD 1 - mild: FEV1≥ 80% predicted
    - GOLD 2 - moderate: 50% ≤FEV1 <80% predicted
    - GOLD 3 - severe: 30% ≤FEV1 <50% predicted
    - GOLD 4 - very severe: FEV1 <30% predicted.

COPD : imaging findings

- Chronic bronchitis
- Emphysema

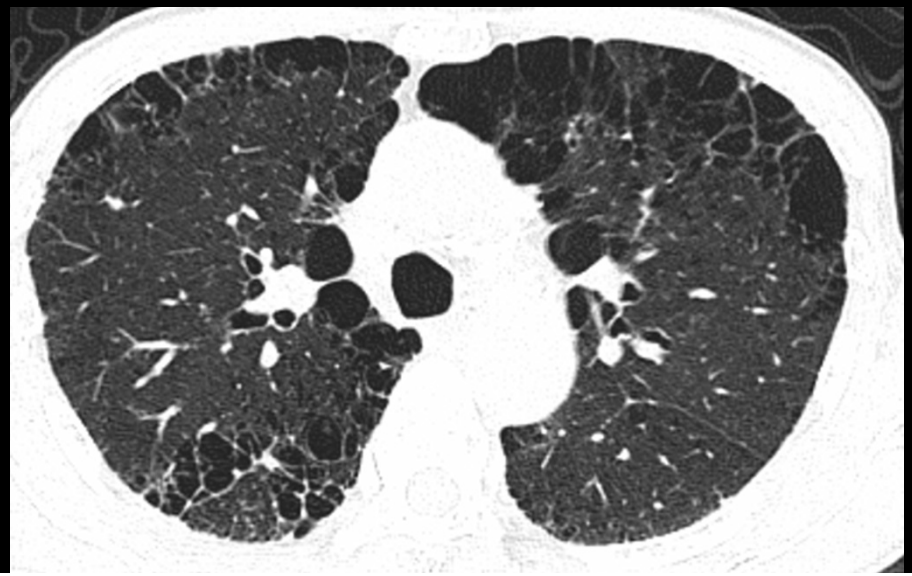


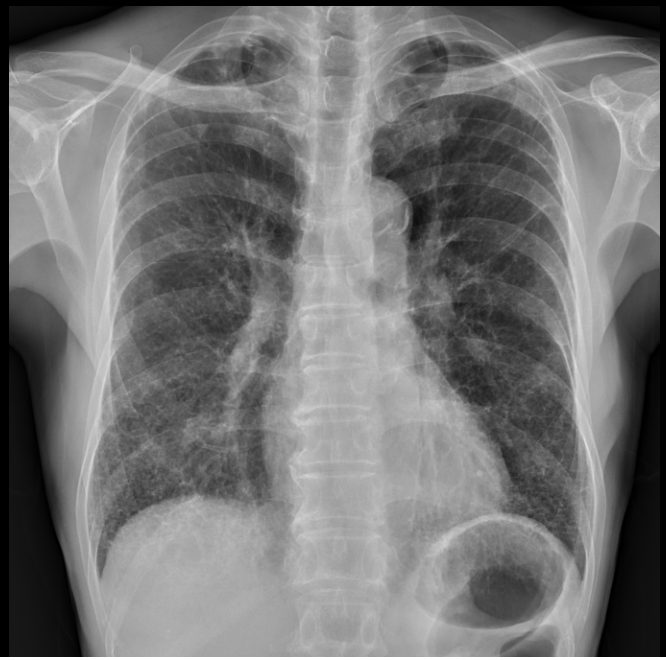




Our patient

- COPD:
  - FEV1/FVC: 73%
  - FEV1: 82%
  - Imaging: paraseptal emphysema at upper lungs, hyperinflation
  - S/S: productive cough





UIP: HRCT CRITERIA FOR UIP PATTERN

中華民國放射線醫學會

高解析度電腦斷層於特發性肺纖維化診斷共識

HRCT on IPF diagnosis

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2017/11/6

本文內容節錄自胸腔次專科小組共識，僅提供本會會員臨床參考，原文刊載於生物醫學第十卷第二期。

UIP: HRCT CRITERIA FOR UIP PATTERN

HRCT CRITERIA FOR UIP PATTERN checklist

Checklist 1

Diagnosis:

☐ **UIP (ALL checkbox)**

☐ **Possible UIP (Checkbox 2 + 3+ 4)**

Checkbox	No.	Classic UIP Feature
☑	1	Honeycombing with or without traction bronchiectasis
☑	2	Subpleural, basal predominance
☑	3	Reticular abnormality
☑	4	No inconsistent with UIP pattern (See below *Checklist 2*)

Checklist 2

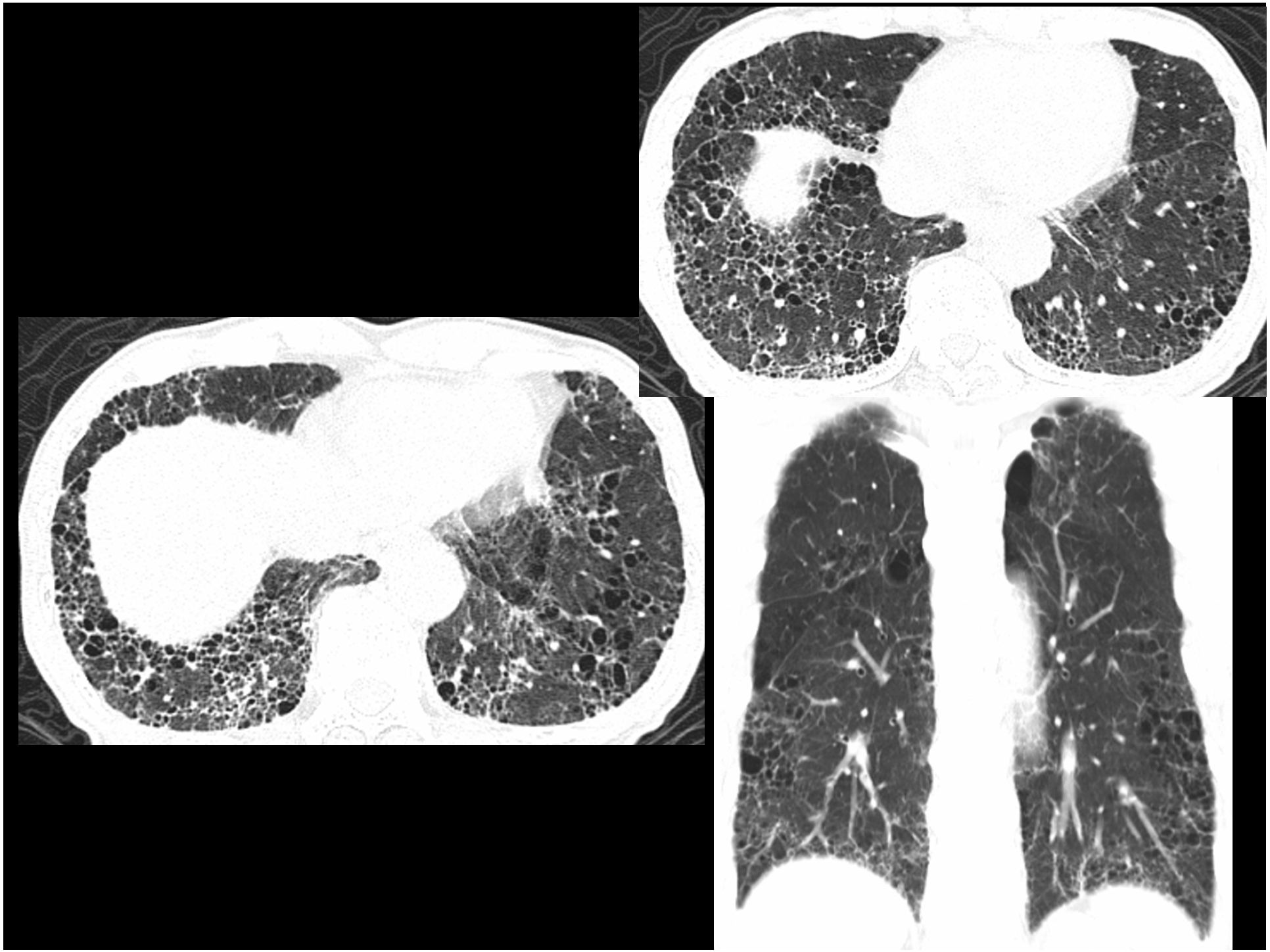
Diagnosis:

☐ **Inconsistent with UIP Pattern (Any of these checkbox)**

Checkbox	No.	Inconsistent with UIP Feature
☐	1	Upper or mid-lung predominance
☐	2	Peribronchovascular predominance
☐	3	Extensive ground glass abnormality (extent. reticular abnormality)
☐	4	Profuse micronodules (bilateral, predominantly upper lobes)
☐	5	Discrete cysts (multiple, bilateral, away from areas of honeycombing)
☐	6	Diffuse mosaic attenuation/air-trapping (bilateral, in three or more lobes)
☐	7	Consolidation in bronchopulmonary segment(s)/lobe(s)

Reference:

1. Raghu, G., et al., An official ATS/ERS/JRS/ALAT statement: idiopathic pulmonary fibrosis: evidence-based guidelines for diagnosis and management. Am J Respir Crit Care Med, 2011. 183(6): p. 788-824.
2. 健保藥品給付規定：第 6 節呼吸道藥物



Diagnosis

- COPD + UIP
  = Combined pulmonary fibrosis and emphysema (CPFE)

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Combined pulmonary fibrosis and emphysema: a distinct underrecognised entity

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ABSTRACT: The syndrome resulting from combined pulmonary fibrosis and emphysema has not been comprehensively described.

The current authors conducted a retrospective study of 61 patients with both emphysema of the upper zones and diffuse parenchymal lung disease with fibrosis of the lower zones of the lungs on chest computed tomography.

Patients (all smokers) included 60 males and one female, with a mean age of 65 yrs. Dyspnoea on exertion was present in all patients. Basal crackles were found in 87% and finger clubbing in 43%. Pulmonary function tests were as follows (mean±SD): total lung capacity 88%±17, forced vital capacity (FVC) 88%±18, forced expiratory volume in one second (FEV_1) 80%±21 (% predicted), FEV_1/FVC 69%±13, carbon monoxide diffusion capacity of the lung 37%±16 (% predicted), carbon monoxide transfer coefficient 46%±19. Pulmonary hypertension was present in 47% of patients at diagnosis, and 55% during follow-up. Patients were followed for a mean of 2.1±2.8 yrs from diagnosis. Survival was 87.5% at 2 yrs and 54.6% at 5 yrs, with a median of 6.1 yrs. The presence of pulmonary hypertension at diagnosis was a critical determinant of prognosis.

The authors hereby individualise the computer tomography-defined syndrome of combined pulmonary fibrosis and emphysema characterised by subnormal spirometry, severe impairment of gas exchange, high prevalence of pulmonary hypertension, and poor survival.