

Interstiziopatie polmonari lavoro correlate “atipiche”

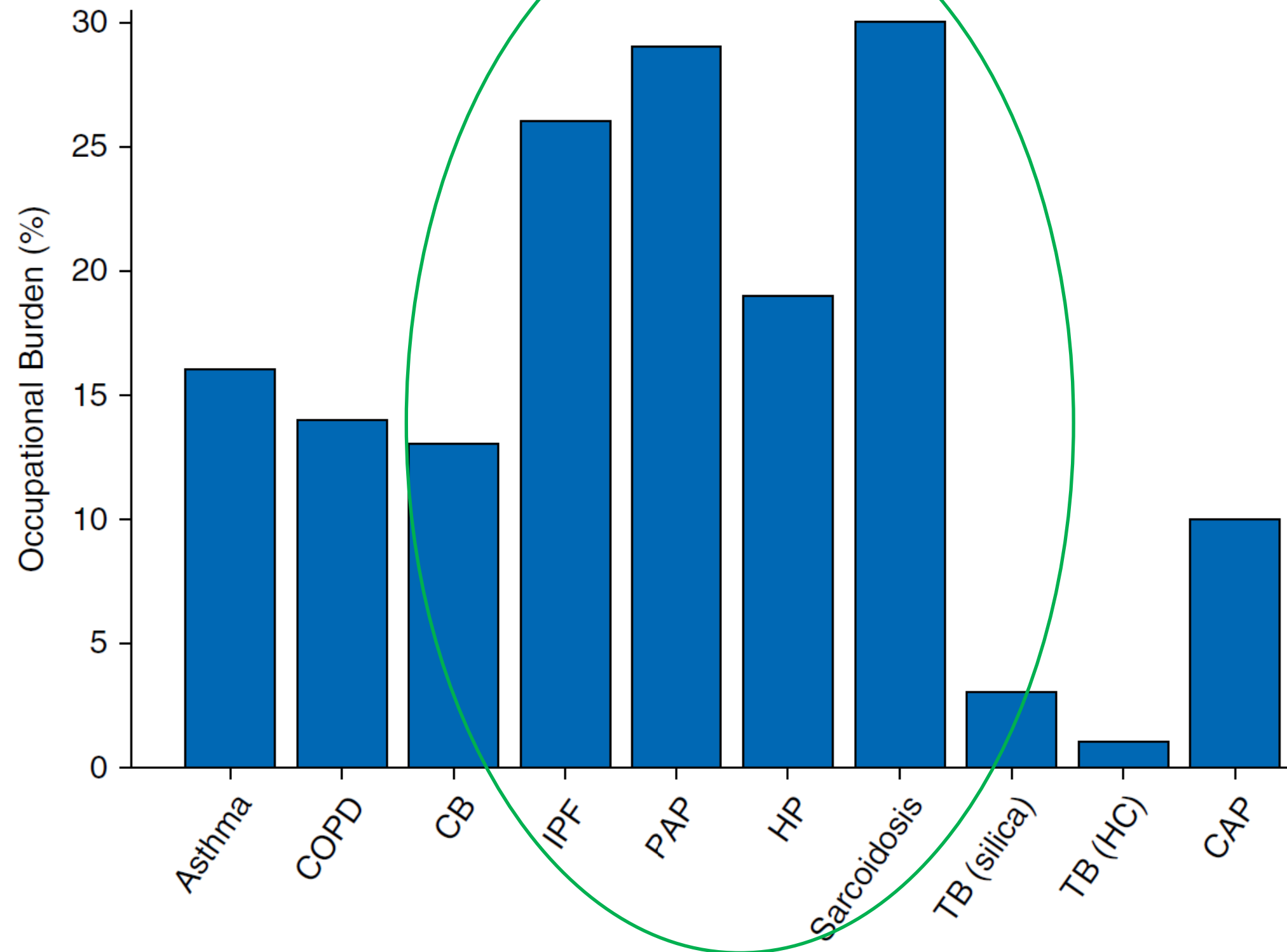
Nicola Murgia

Università di Ferrara
UOC di Medicina del Lavoro AOU-AUSL Ferrara

The Occupational Burden of Nonmalignant Respiratory Diseases
An Official American Thoracic Society and European Respiratory Society
Statement

Paul D. Blanc, Isabella Annesi-Maesano, John R. Balmes, Kristin J. Cummings, David Fishwick, David Miedinger,
Nicola Murgia, Rajen N. Naidoo, Carl J. Reynolds, Torben Sigsgaard, Kjell Torén, Denis Vinnikov, and Carrie A. Redlich;
on behalf of the American Thoracic Society and European Respiratory Society

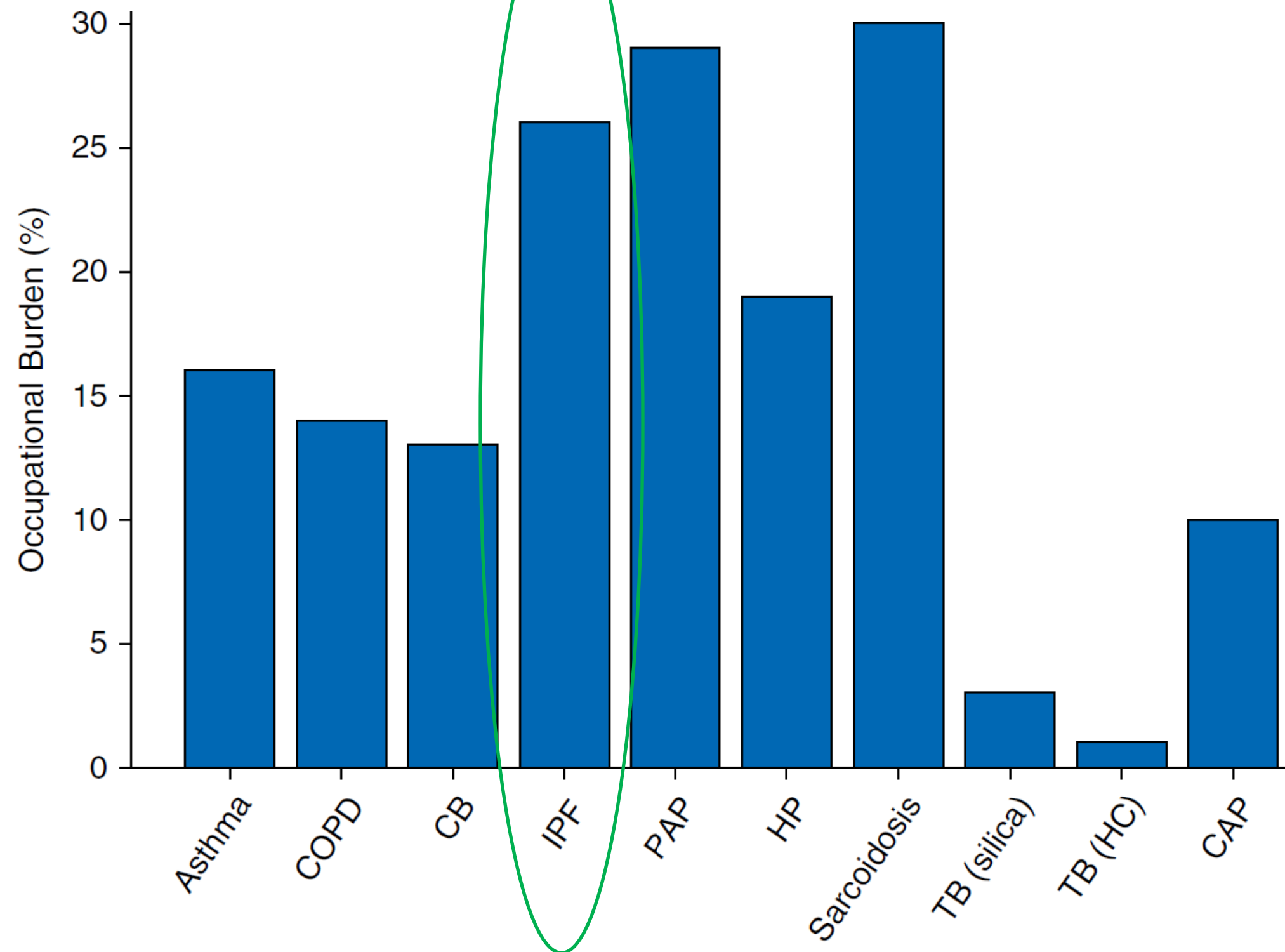
THIS OFFICIAL STATEMENT WAS APPROVED BY THE AMERICAN THORACIC SOCIETY MAY 2019 AND THE EUROPEAN RESPIRATORY SOCIETY MARCH 2019



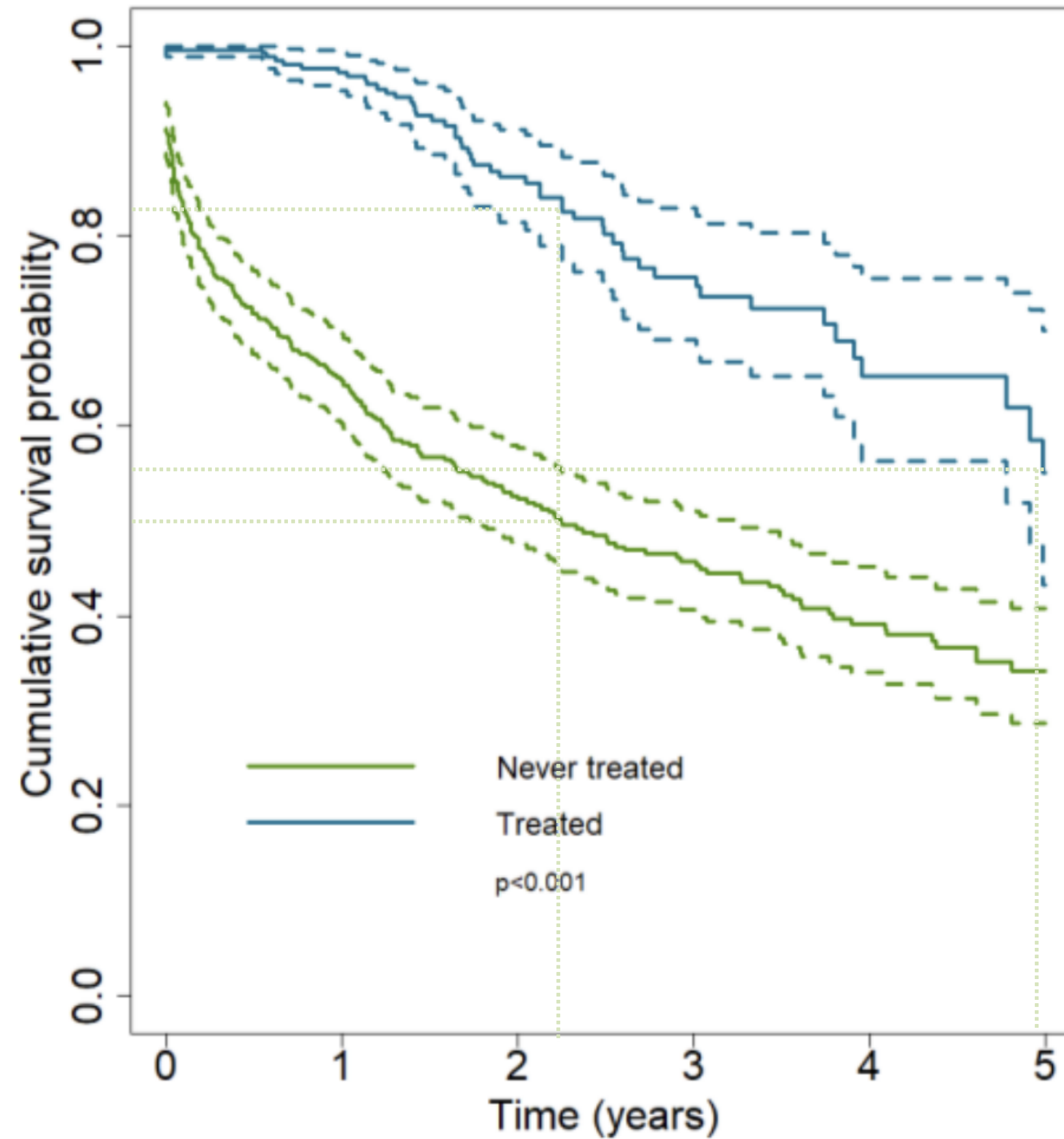
The Occupational Burden of Nonmalignant Respiratory Diseases
An Official American Thoracic Society and European Respiratory Society
Statement

Paul D. Blanc, Isabella Annesi-Maesano, John R. Balmes, Kristin J. Cummings, David Fishwick, David Miedinger, Nicola Murgia, Rajen N. Naidoo, Carl J. Reynolds, Torben Sigsgaard, Kjell Torén, Denis Vinnikov, and Carrie A. Redlich, on behalf of the American Thoracic Society and European Respiratory Society

THIS OFFICIAL STATEMENT WAS APPROVED BY THE AMERICAN THORACIC SOCIETY MAY 2019 AND THE EUROPEAN RESPIRATORY SOCIETY MARCH 2019



Mortalità per fibrosi polmonare idiopatica



Iommi M et al 2022

Mortalità per fibrosi polmonare idiopatica



The Occupational Burden of Nonmalignant Respiratory Diseases An Official American Thoracic Society and European Respiratory Society Statement

| Paul D. Blanc, Isabella Annesi-Maesano, John R. Balmes, Kristin J. Cummings, David Fishwick, David Miedinger, Nicola Murgia, Rajen N. Naidoo, Carl J. Reynolds, Torben Sigsgaard, Kjell Torén, Denis Vinnikov, and Carrie A. Redlich;
on behalf of the American Thoracic Society and European Respiratory Society

THIS OFFICIAL STATEMENT WAS APPROVED BY THE AMERICAN THORACIC SOCIETY MAY 2019 AND THE EUROPEAN RESPIRATORY SOCIETY MARCH 2019

Table 5. Pooled Population Attributable Fraction Estimates for Occupation and Idiopathic Pulmonary Fibrosis

Exposure	Risk Estimates (N)	Pooled OR (95% CI)	Pooled PAF (%) (95% CI)
VGDF	6	2.0 (1.2–3.2)	26 (10–41)
Metal dusts	9	2.0 (1.3–3.0)	8 (4–13)
Wood dusts	11	1.7 (1.3–2.2)	4 (2–6)
Agricultural dusts	5	1.6 (0.8–3.0)	4 (0–12)
Silica	8	1.7 (1.2–2.4)	3 (2–5)

Definition of abbreviations: CI = confidence interval; OR = odds ratio; PAF = population attributable fraction; VGDF = vapors, gas, dust, or fumes, which represent all the other exposure categories shown combined and, in selected studies, additional exposures as well.

RESEARCH ARTICLE Open Access



Occupational risk factors for idiopathic pulmonary fibrosis in Southern Europe: a case-control study

Giulia Paolucci¹, Ilenia Folletti¹, Kjell Torén², Magnus Ekström², Marco Dell’Omo¹, Giacomo Muzi¹ and Nicola Murgia^{1,2*}

Table 2 Job at risk for UIP in the whole sample, in men and women, adjusted for age and smoking

Exposure	All ^a OR (95% CI)	Men OR (95% CI)	Women OR (95% CI)
None	1	1	1
Any job at risk of UIP	4.14 (2.27–7.53)	4.40 (2.13–9.05)	3.91 (1.18–12.86)
Costruction workers	1.31 (0.58–2.98)	1.37 (0.60–3.12)	–
Wood industry workers	1.36 (0.46–3.97)	1.35 (0.46–3.95)	–
Metallurgical and steel industry	4.80 (1.50–15.33)	4.76 (1.50–15.15)	–
Farmers, vets and gardeners	2.73 (1.47–5.10)	2.42 (1.14–5.11)	3.91 (1.18–12.86)

Significant risk estimates in italic
^athe whole sample also adjusted for gender



The Impact of Occupational Exposures on the Risk of Idiopathic Pulmonary Fibrosis

A Systematic Review and Meta-Analysis

Sheiphali A. Gandhi¹, Bohyung Min², Jane C. Fazio³, Kerri A. Johansson², Craig Steinmaus⁴, Carl J. Reynolds⁵, and Kristin J. Cummings⁶

Table 5. Pooled OR and PAF estimates for occupation and idiopathic pulmonary fibrosis

Exposure	Risk Estimates	Pooled OR (95% CI)	Pooled PAF (95% CI)
VGDF	11	1.8 (1.3-2.4)	21% (15–28%)
Metal dusts	13	1.6 (1.2-2.1)	7% (5–10%)
Wood dusts	13	1.6 (1.2-2.0)	3% (2–4%)
Agricultural dusts	8	1.8 (1.2-2.7)	14% (8–20%)
Silica	11	1.8 (1.1-3.0)	4% (2–5%)

Definition of abbreviations: CI = confidence interval; OR = odds ratio; PAF = population attributable fraction; VGDF = vapors, gas, dust, or fumes, which represent all the other exposure categories shown combined, and, in selected studies, additional exposures. Awadalla and colleagues (27) stratified their study sample by male and female, contributing two risk estimates to the wood, agricultural, and silica subcategories.

Caso clinico I

Donna 56 anni

Non fumatrice

Anamnesi patologica remota negativa

Accede al PS per dispnea acuta e tosse

Esclusa patologia infettiva

Spirometria normale, DLCO alterata

La TC mostra segni di alveolite

**La sintomatologia si ripete più volte alla fine del
turno di lavoro**



Fig. 1 Exemplary case: high-resolution CT (HRCT) scan shows ground-glass opacities in the right lower lobe

Caso clinico I

Donna 56 anni

Non fumatrice

Anamnesi patologica remota negativa

Accede al PS per dispnea acuta e tosse

Esclusa patologia infettiva

Spirometria normale, DLCO alterata

La TC mostra segni di alveolite

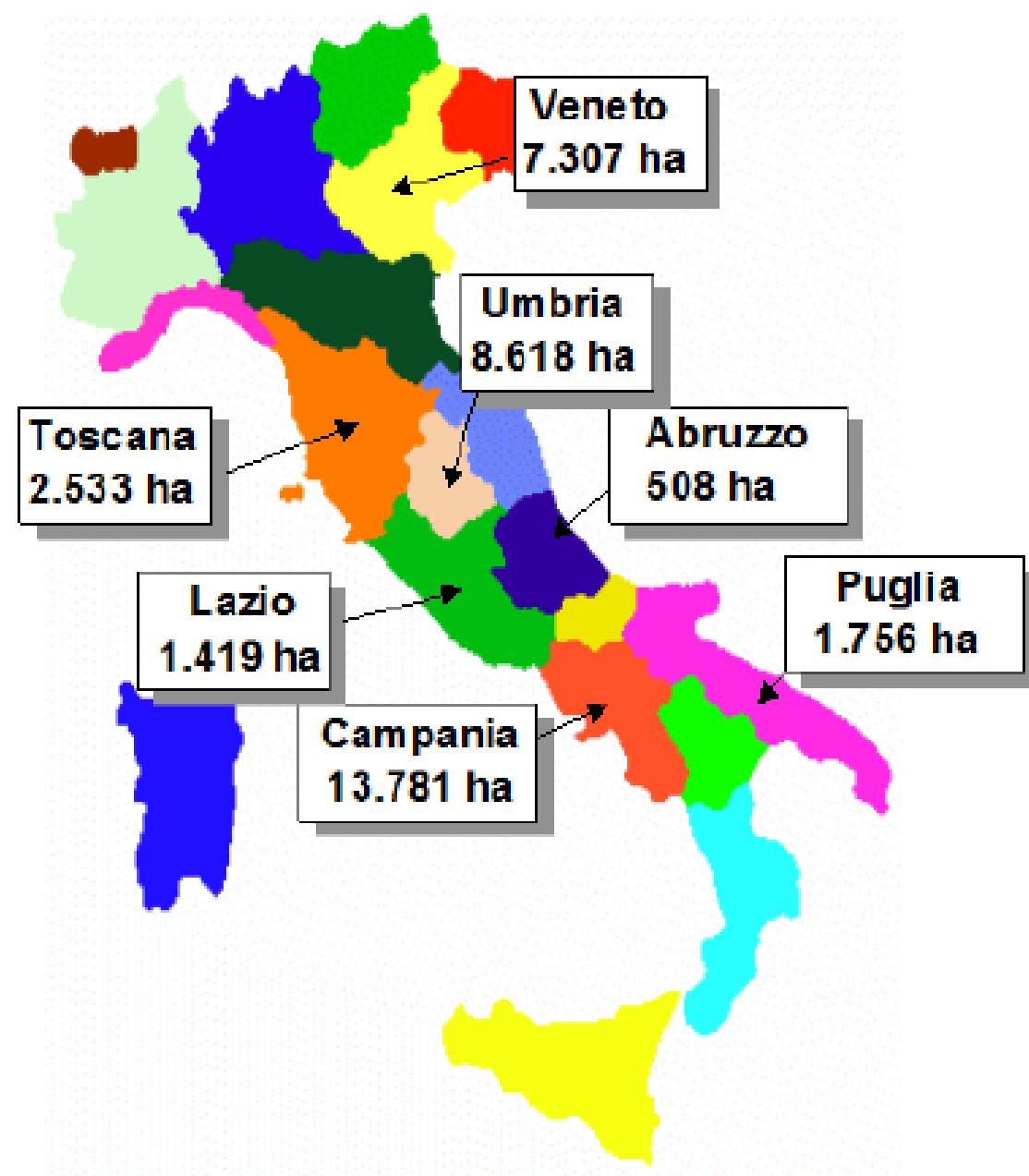
**La sintomatologia si ripete più volte alla fine del
turno di lavoro**

Lavoratrice addetta alla cernita del tabacco



Fig. 1 Exemplary case: high-resolution CT (HRCT) scan shows ground-glass opacities in the right lower lobe





Altre regioni	(ha)
Lombardia	270
Friuli V.G.	162
Marche	80
Piemonte	70
Molise	59
Basilicata	10
Emilia Romagna	4

Figura 2. Superfici investite a tabacco nelle diverse regioni Italiane (Istat e Agea, 2003).



Fasi della lavorazione del tabacco



Fasi della coltivazione del tabacco

VIRGINIA BRIGHT - FASI COLTIVAZIONE																																	
ATTIVITA'	Mese	Marzo				Aprile				Maggio				Giugno				Luglio				Agosto				Settembre				Ottobre			
	Settimana	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV				
Produzione piantine	CENTRO																																
	NORD																																
Lavorazione terreno	CENTRO																																
	NORD																																
Trapianto	CENTRO																																
	NORD																																
Concimazione	CENTRO																																
	NORD																																
Trattamenti	CENTRO																																
	NORD																																
Cimatura	CENTRO																																
	NORD																																
Raccolta	CENTRO																																
	NORD																																
Cura	CENTRO																																
	NORD																																
Irrigazione	CENTRO																																
	NORD																																

Da Disciplinare Tabacco VB MIPAAF 2019

Fig. 2

From: [Tobacco Worker's Lung: A Neglected Subtype of Hypersensitivity Pneumonitis](#)



Working environment of the exemplary case. **a** Tobacco leaves at the beginning of the sorting process; **b** Dryer chambers used for tobacco leaves; **c** Manual sorting of tobacco leaves after re-humidification; **d** Moldy tobacco leaves

Tobacco Worker's Lung: A Neglected Subtype of Hypersensitivity Pneumonitis

Vincenzo Zagà¹ · Marco Dell'Omo² · Nicola Murgia² · Marco Mura^{3,4} 

of tobacco mold may develop. The main species of mold that cause TWL are *Aspergillus sp.*, *Umbrosus*, *Fumigatus* [17], *Scopulariopsis Brevicaulis* [8], *Penicillium sp.* [17], *Thermoactinomyces Vulgaris* [17], and *Rhizopus Nigricans* [20]. *Scopulariopsis Brevicaulis* has been specifically linked to a type III immune reaction, characteristic of HP/TWL [8]. In a Finnish study, the high proportion of serum precip-



Fig. 1 Exemplary case: high-resolution CT (HRCT) scan shows ground-glass opacities in the right lower lobe

Caso clinico I

Donna 56 anni

Non fumatrice

Anamnesi patologica remota negativa

Accede al PS per dispnea acuta e tosse

Esclusa patologia infettiva

Spirometria normale, DLCO alterata

La TC mostra segni di alveolite

La sintomatologia si ripete più volte alla fine del turno di lavoro

Lavoratrice addetta alla cernita del tabacco

Nettamente migliorata dopo la cessazione

dell'esposizione (DLCO e TC al follow-up normali)



Fig.1 Exemplary case: high-resolution CT (HRCT) scan shows ground-glass opacities in the right lower lobe

Caso clinico II

Uomo 62 anni

Non fumatore

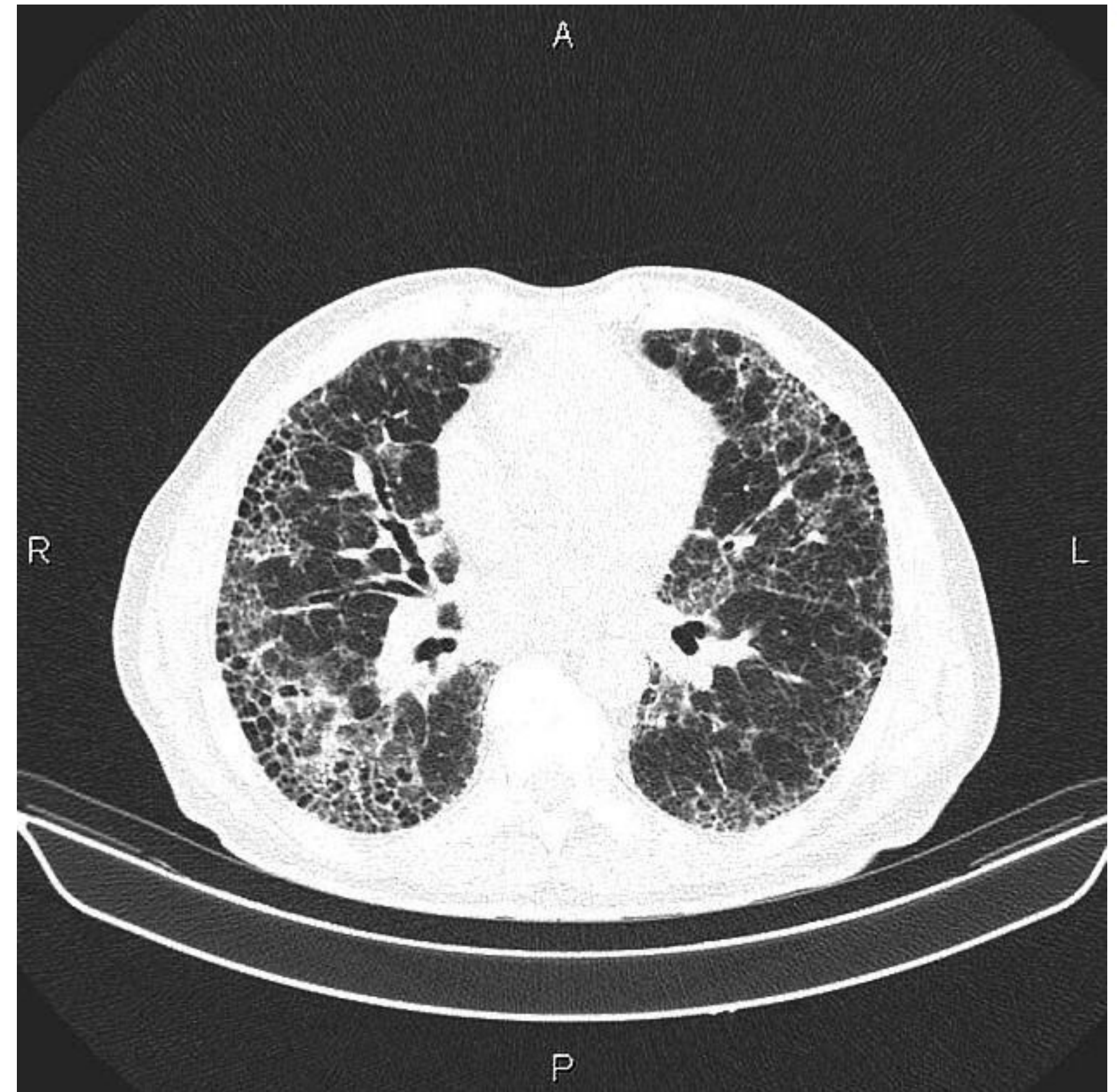
Anamnesi patologica remota IAS, diabete

Affetto da fibrosi polmonare idiopatica da 3 anni

Già in OLT da 1 anno

Accede in PS per riacutizzazione

La TC mostra segni avanzati di pattern UIP



Caso clinico II

Uomo 62 anni

Non fumatore

Anamnesi patologica remota IAS, diabete

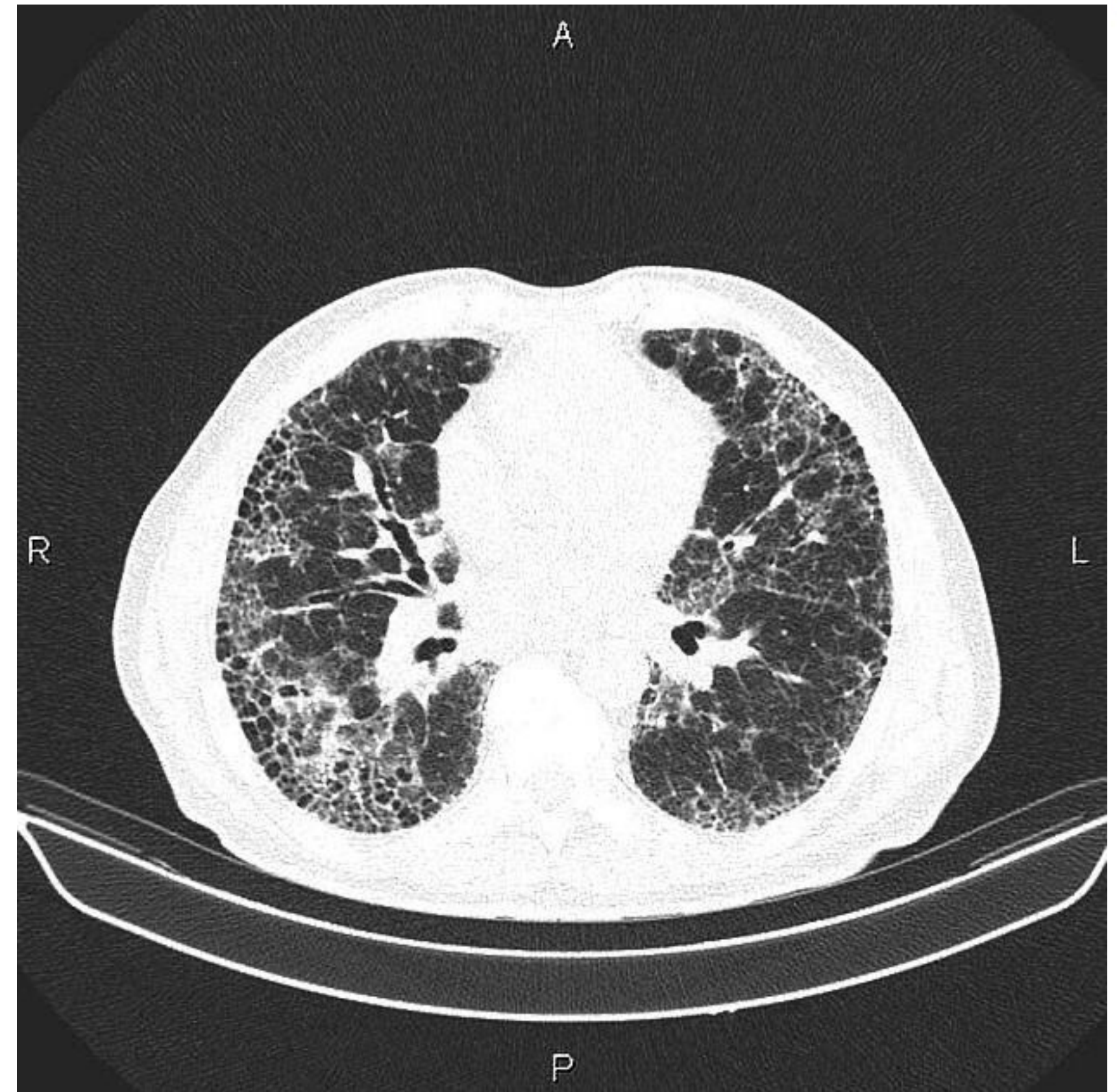
Affetto da fibrosi polmonare idiopatica da 3 anni

Già in OLT da 1 anno

Accede in PS per riacutizzazione

La TC mostra segni avanzati di pattern UIP

**Fino allo scorso anno lavorava in una azienda
che produce cavi elettrici (da 10 anni)**





Caso clinico II

Uomo 62 anni

Non fumatore

Anamnesi patologica remota IAS, diabete

Affetto da fibrosi polmonare idiopatica da 3 anni

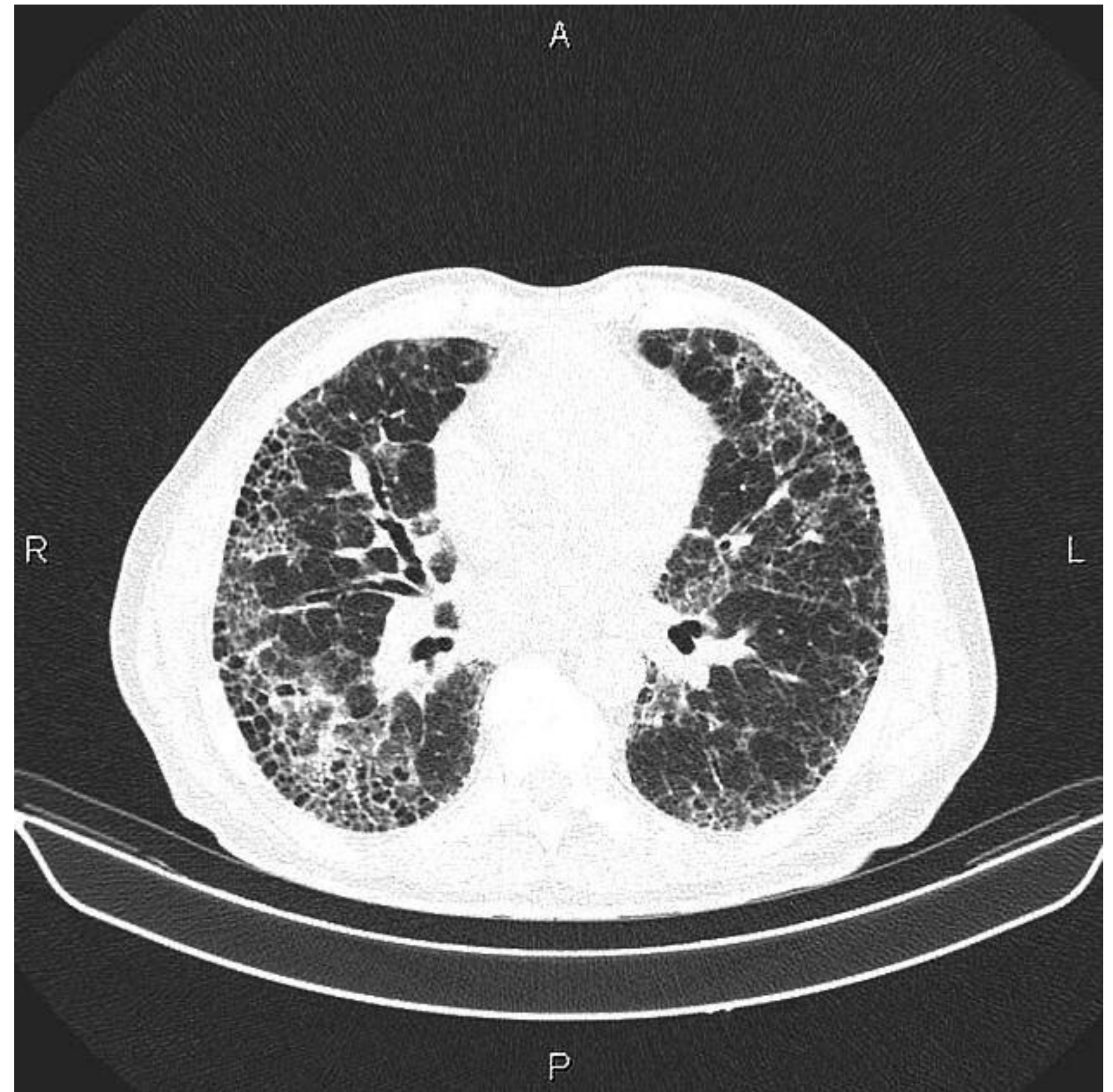
Già in OLT da 1 anno

Accede in PS per riacutizzazione

La TC mostra segni avanzati di pattern UIP

**Fino allo scorso anno lavorava in una azienda
che produce cavi elettrici (da 10 anni)**

IgG per isocianati positive 3 anni prima



Chronic hypersensitivity pneumonitis in patients diagnosed with idiopathic pulmonary fibrosis: a prospective case-cohort study

Lancet Respir Med 2013;
1: 685-94

Ferran Morell, Ana Villar, María-Ángeles Montero, Xavier Muñoz, Thomas V Colby, Sudhakar Pipvath, María-Jesús Cruz, Ganesh Raghu

Findings 20 of the 46 (43%, 95% CI 29–58) patients with IPF according to 2011 guidelines had a subsequent diagnosis of chronic hypersensitivity pneumonitis: nine patients had positive bronchial challenge testing (eight of whom were

Findings 20 of the 46 (43%, 95% CI 29–58) patients with IPF according to 2011 guidelines had a subsequent diagnosis of chronic hypersensitivity pneumonitis: nine patients had positive bronchial challenge testing (eight of whom were also IgG positive and six of these patients also had surgical lung biopsy showing a pattern consistent with chronic hypersensitivity pneumonitis); seven were IgG positive plus had histopathology on surgical lung biopsy that was consistent with hypersensitivity pneumonitis; one was IgG positive plus had greater than 20% lymphocytes in bronchoalveolar lavage fluid; and three had findings on surgical lung biopsy that were consistent with subacute hypersensitivity pneumonitis (and IgG positive). Altogether, 29 of 46 patients diagnosed with IPF who had met the 2011 criteria had lung tissue available for histopathology (surgical lung biopsy in 28 patients and explanted lung in two patients, one of whom also had surgical biopsy) during the study period, and 16 of the 20 patients with chronic hypersensitivity pneumonitis had histopathological features on surgical lung biopsy that were consistent with this diagnosis. 26 of the 46 patients remained with a diagnosis of IPF.

Polmoniti da ipersensibilità – dati INAIL

 Home

Open Data INAIL
Anni 2020 - 2024 estrazione del 30/04/2025

Malattie Professionali

Elimina filtri

Categoria, Gruppo, Sottogruppo, ICD 10 denunciato
Selezioni multiple

Gestione
Tutte

Settore economico
Tutte

Regione
Tutte

Provincia
Tutte

Genere
Tutte

Utilizzando uno o più filtri si modificano immediatamente tutti gli oggetti, tabelle, grafici e mappe di questa pagina. Il bottone in alto a destra li elimina tutti.

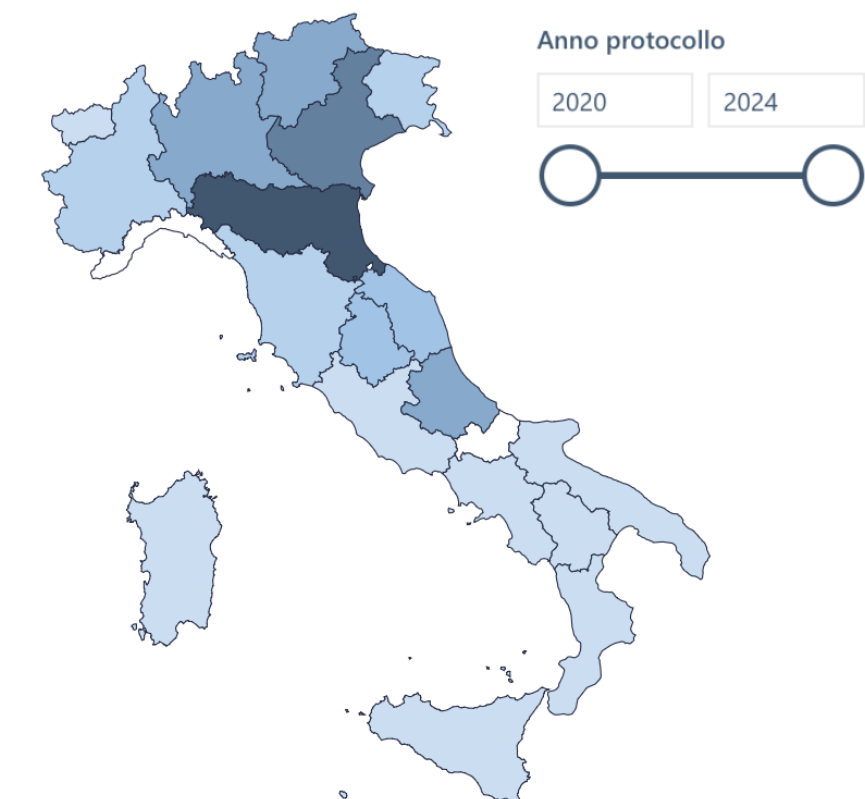
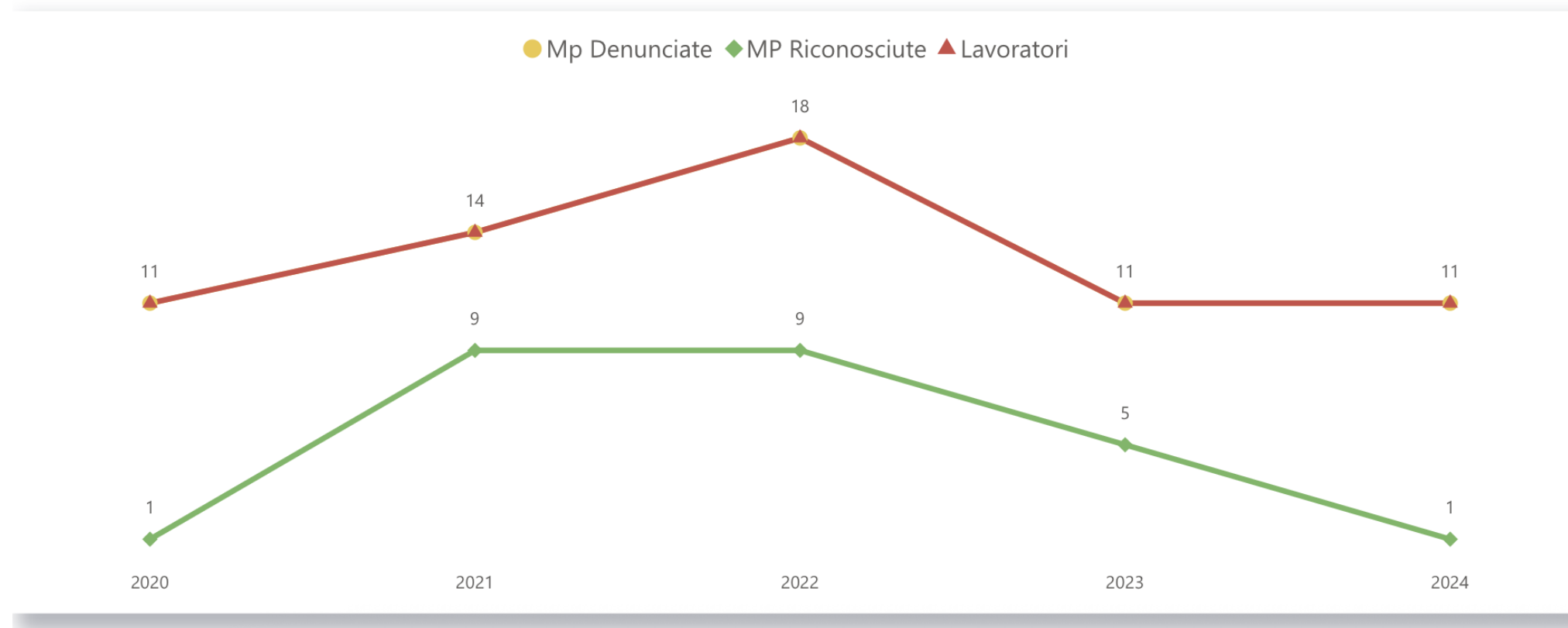
MalattiaAsbestoCorrelata

Tutte

La denuncia e il riconoscimento delle malattie professionali per anno, Regione e Provincia

MP Denunciate - ICD-X: J67 Polmonite da ipersensibilità a polveri organiche, J67.0 Polmone del contadino, J67.1 Bagassosi, J67.2 Polmone degli allevatori di uccelli, J67.3 Suberosi, J67.4 Polmone dei lavoratori del malto, J67.5 Polmone dei lavoratori di funghi, J67.6 Polmone degli scorcettatori d'acero, J67.7 Polmone da condizi...

Mp riconosciute (anni selezionati)



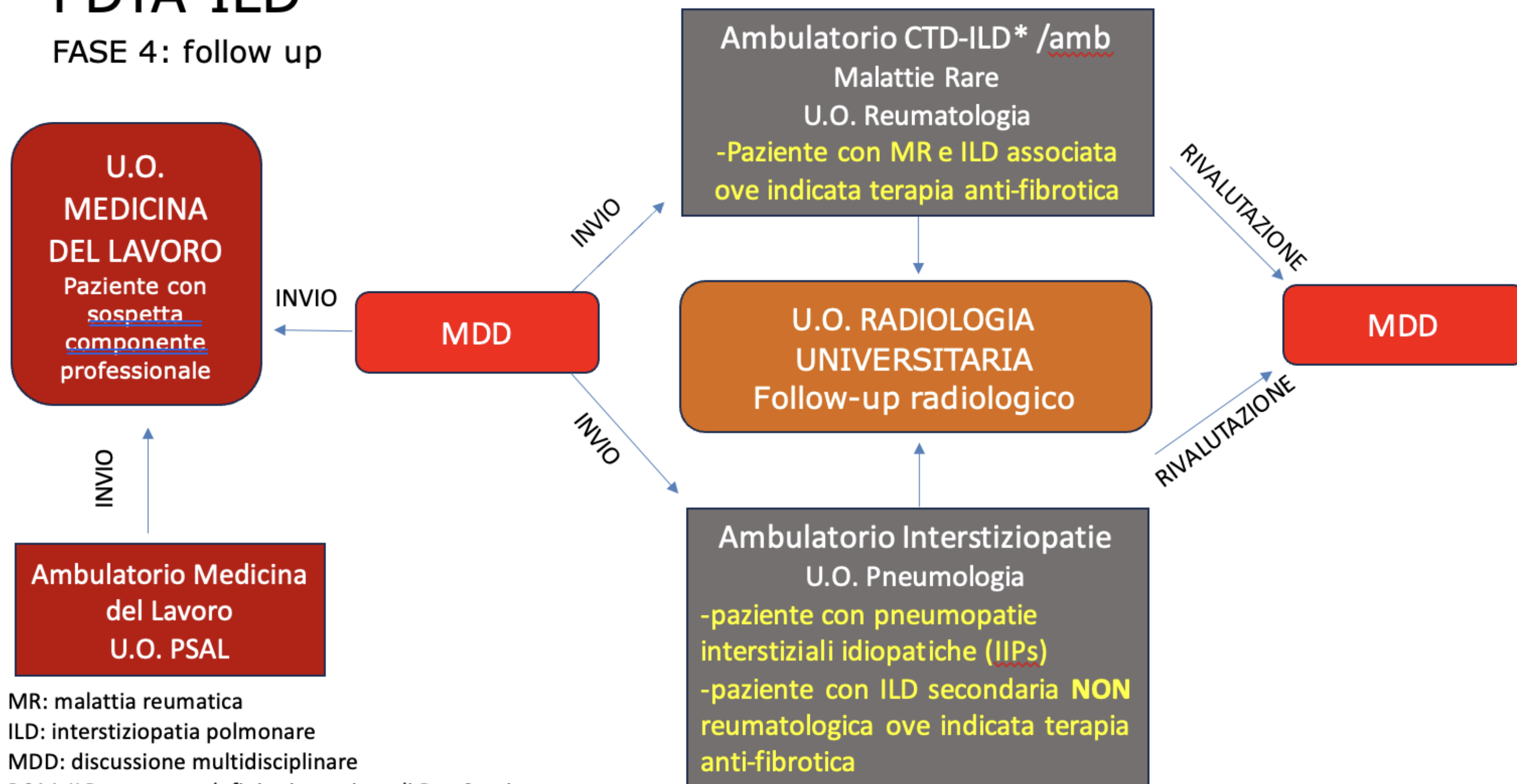
Conclusioni

- Le patologie interstiziali respiratorie lavoro correlate sono ampiamente sottostimate
- L'emersione delle respiratorie lavoro correlate è un fenomeno complesso
- Ruolo rilevante possono avere:
 - Medici competenti -> singole segnalazioni
 - Ambulatori pubblici di medicina del lavoro e Strutture di secondo livello
 - Raccolta dati
 - Partecipazione dei medici del lavoro a PDTA sulle interstiziopatie



PDTA-ILD

FASE 4: follow up



MR: malattia reumatica

ILD: interstiziopatia polmonare

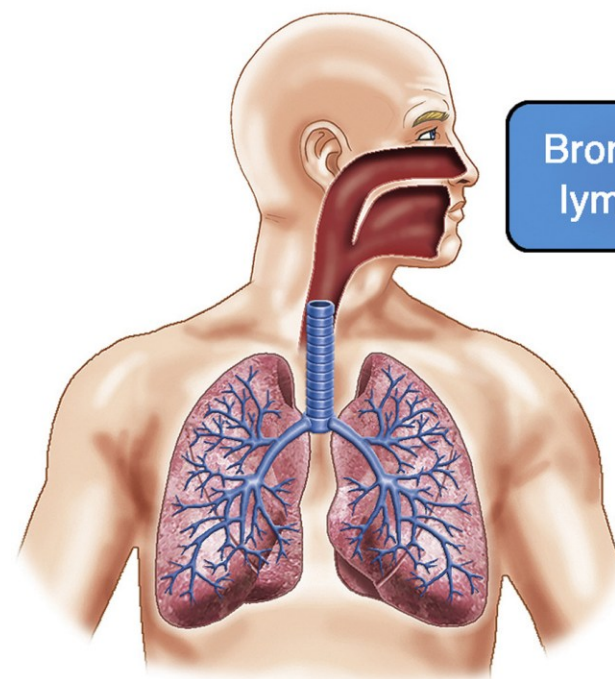
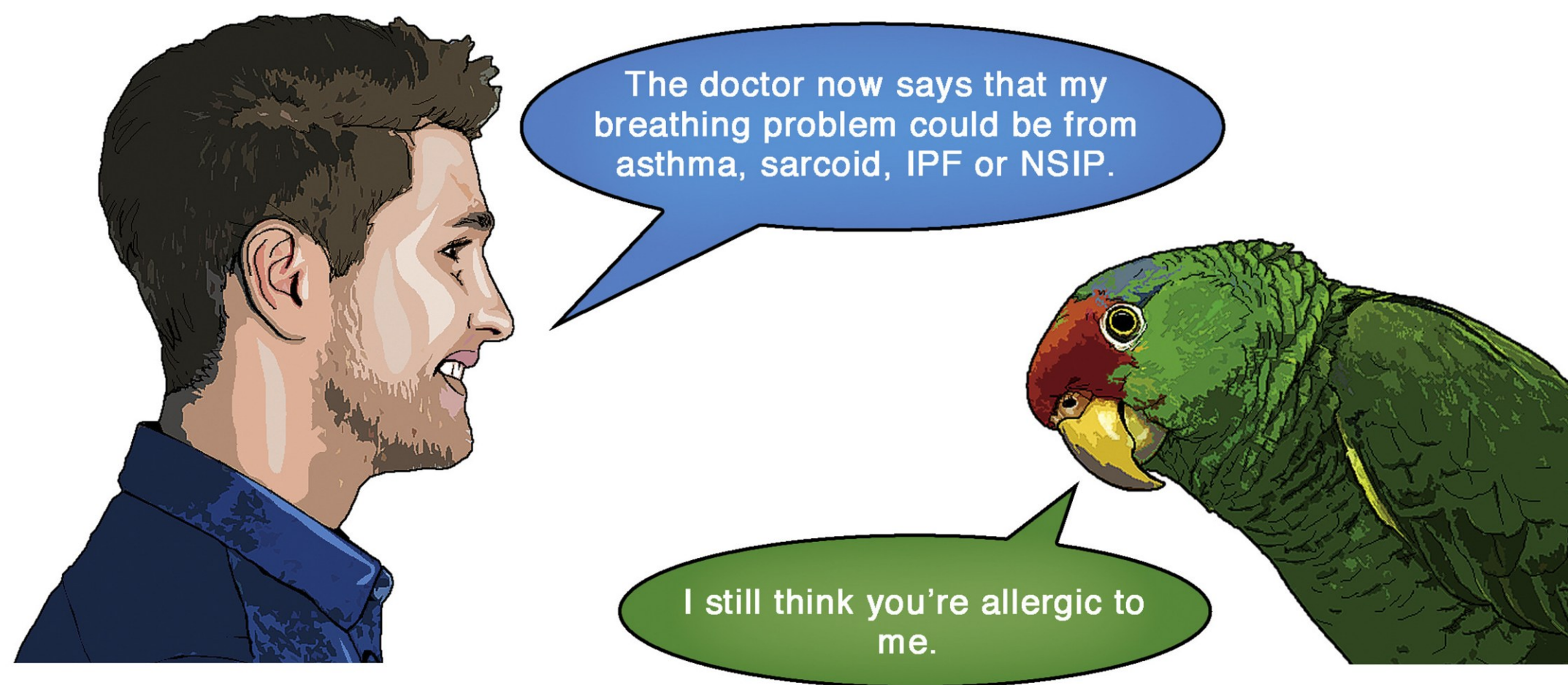
MDD: discussione multidisciplinare

DSA1-ILD: percorso definito in regime di Day Service

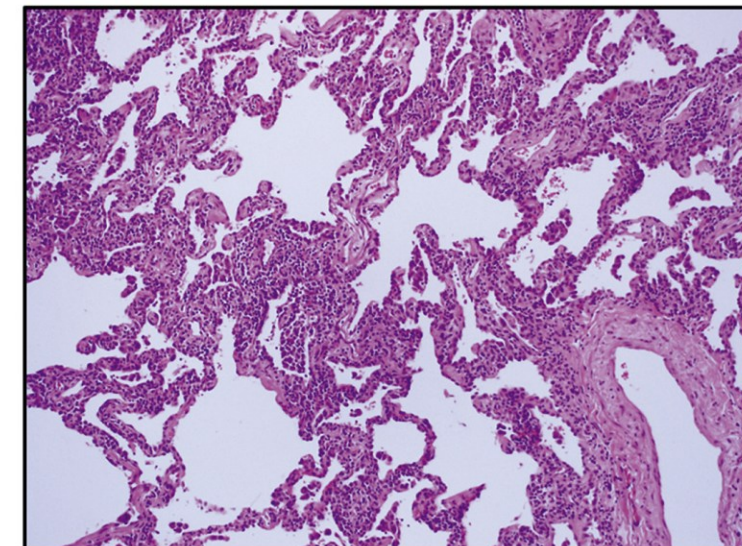
CTD-ILD: ambulatorio reumatologico dedicato ad ILD

IPF: fibrosi polmonare idiopatica

IIP: pneumopatia interstiziale idiopatica



Bronchoalveolar lavage
lymphocytosis $\geq 30\%$



There is thickening
of the alveolar
septa by
intense lymphocytic
interstitial infiltrates

The diagnosis of hypersensitivity pneumonitis is made with compatible clinical symptoms, an inciting (inducing) antigen, the abnormal high resolution CT scan, pulmonary function testing, evidence of IgG antibodies to the antigen, and for some patients, lung biopsy.

Greenberger PA JACI 2019