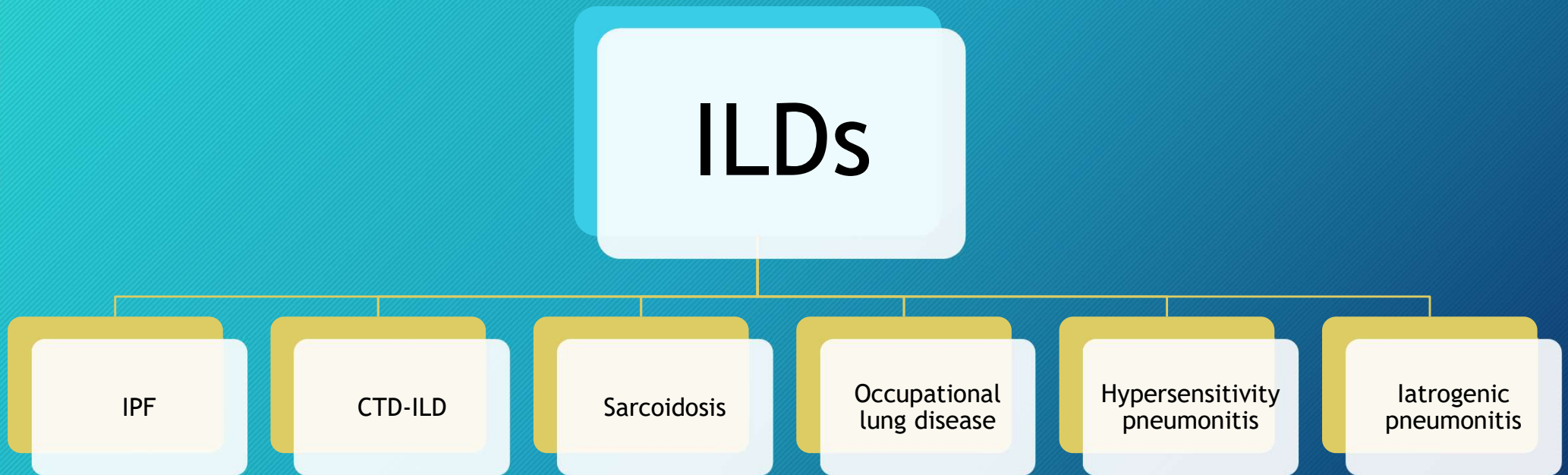
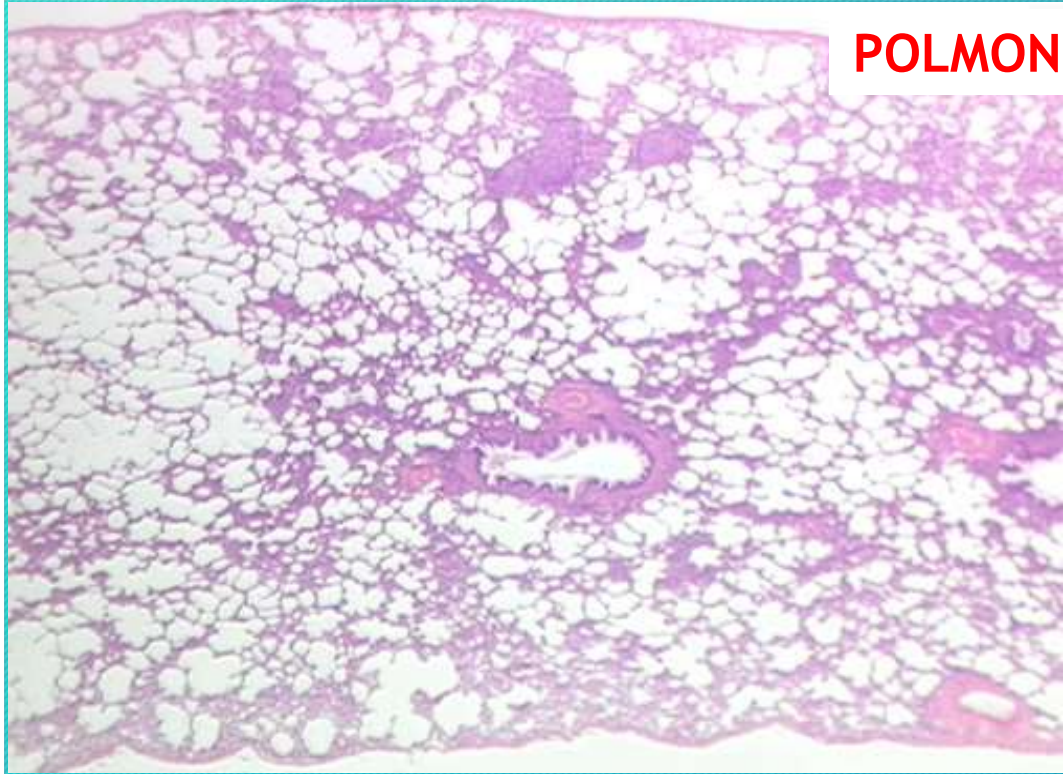


Interstiziopatie polmonari: il ruolo della chirurgia

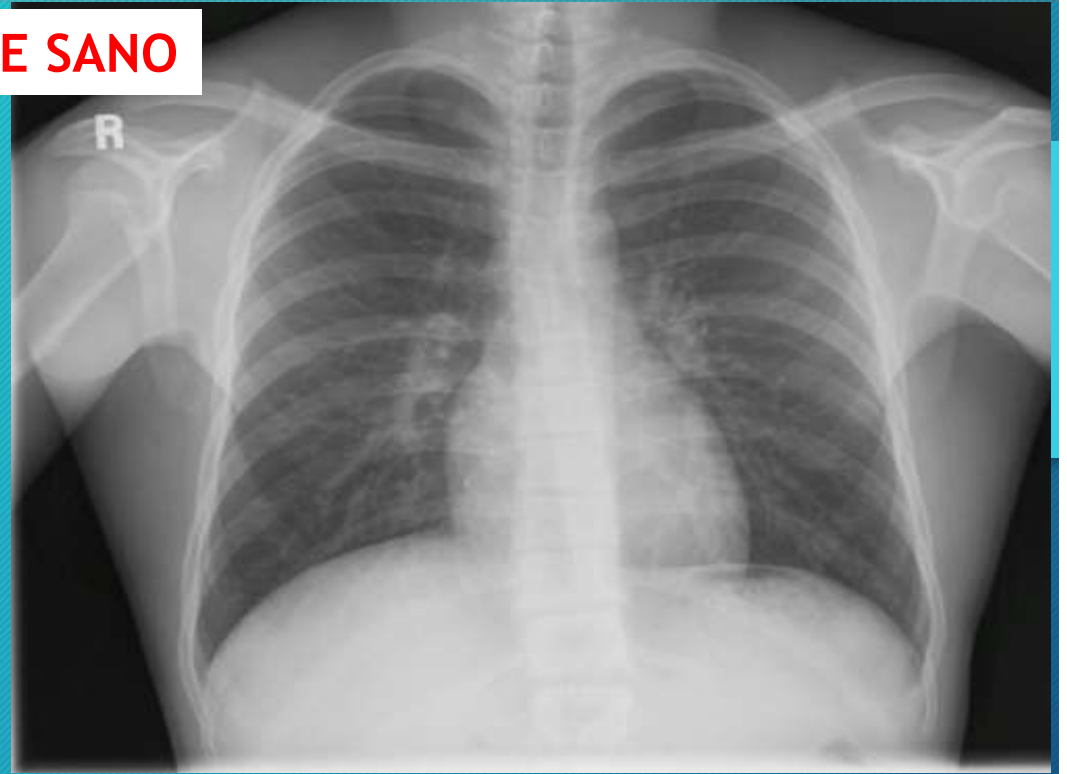
Fornaciari Lorenzo
Mattioli Irene
Preci Cecilia

Classificazione



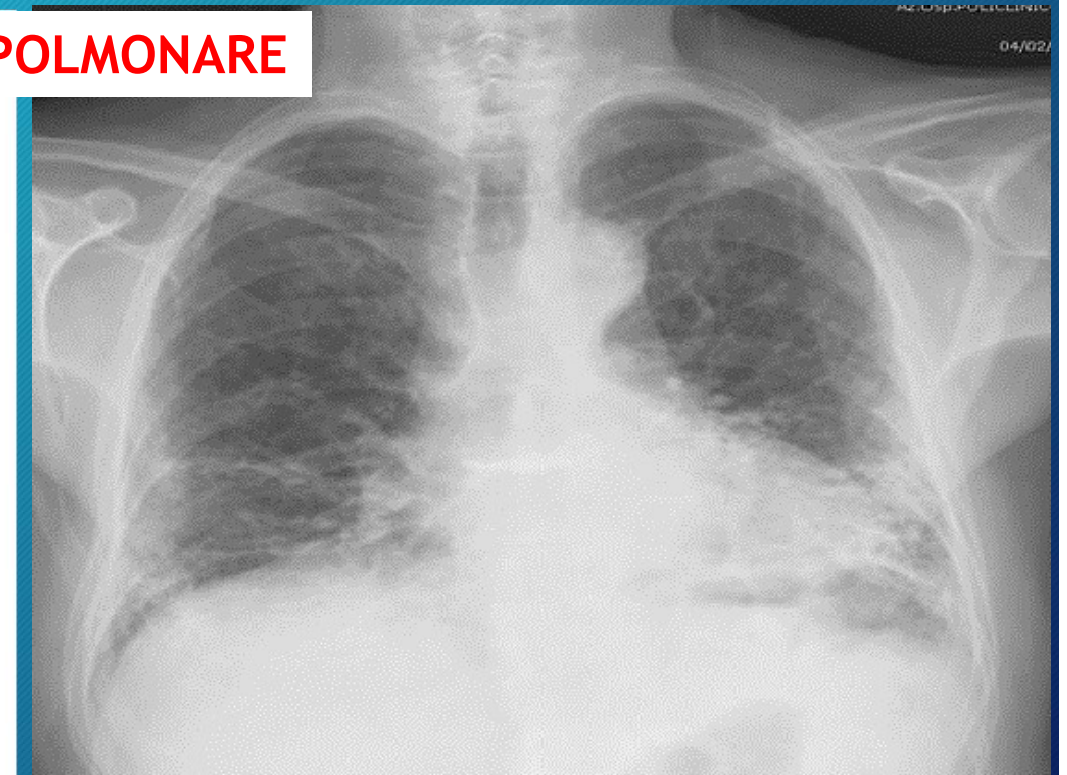
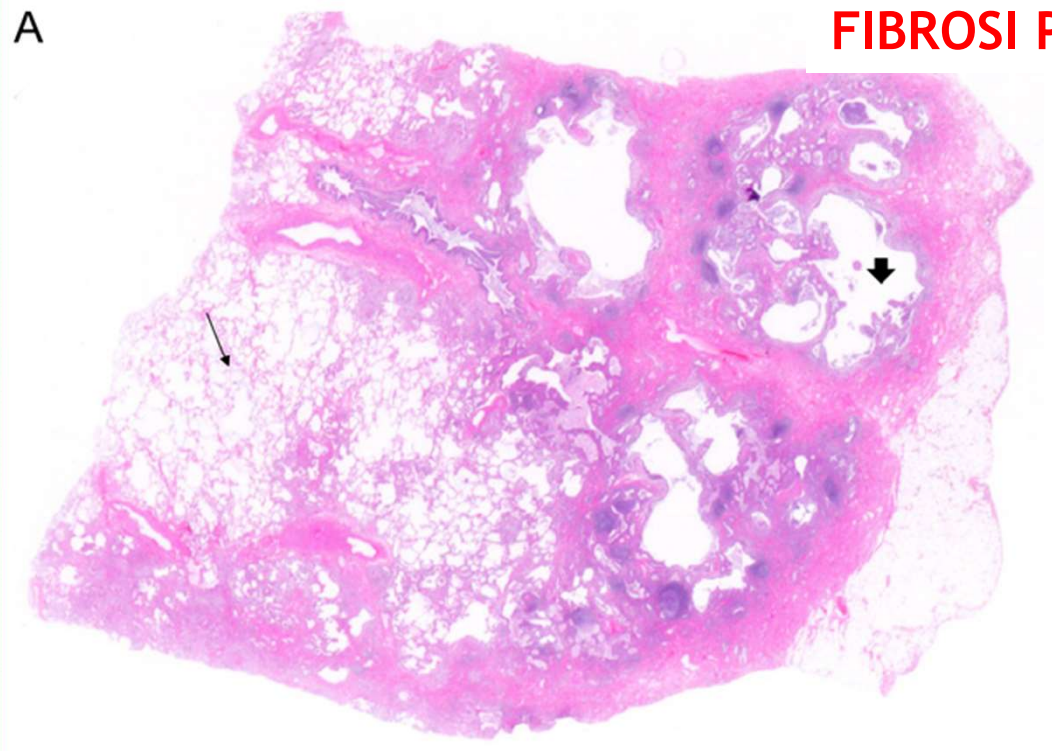


POLMONE SANO



A

FIBROSI POLMONARE



Chi pone l'indicazione all'intervento?



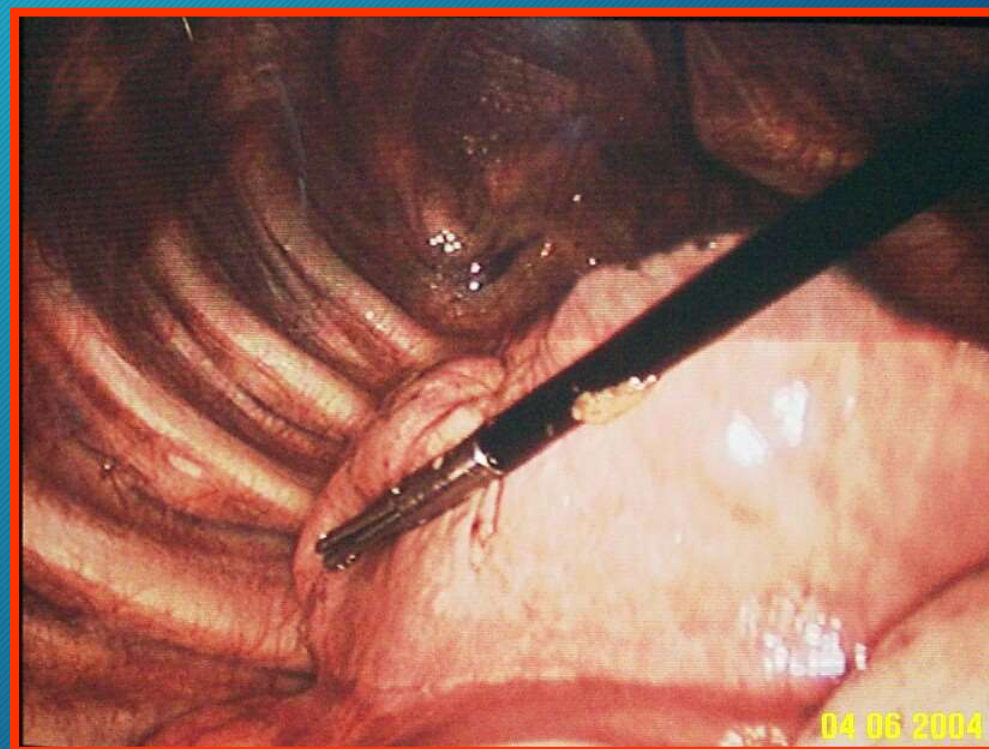
Il ruolo del chirurgo

- Definire la tecnica;
- Decidere il lato;
- Definire il numero e la sede dei prelievi;
- Considerare controindicazioni di natura funzionale e/o tecniche.

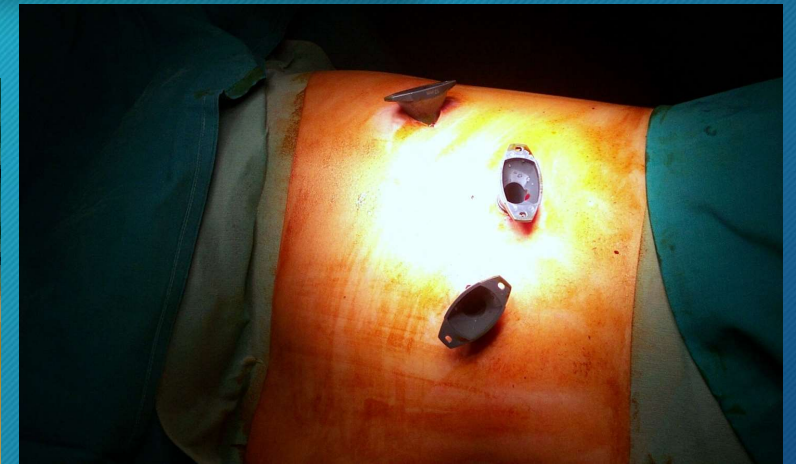
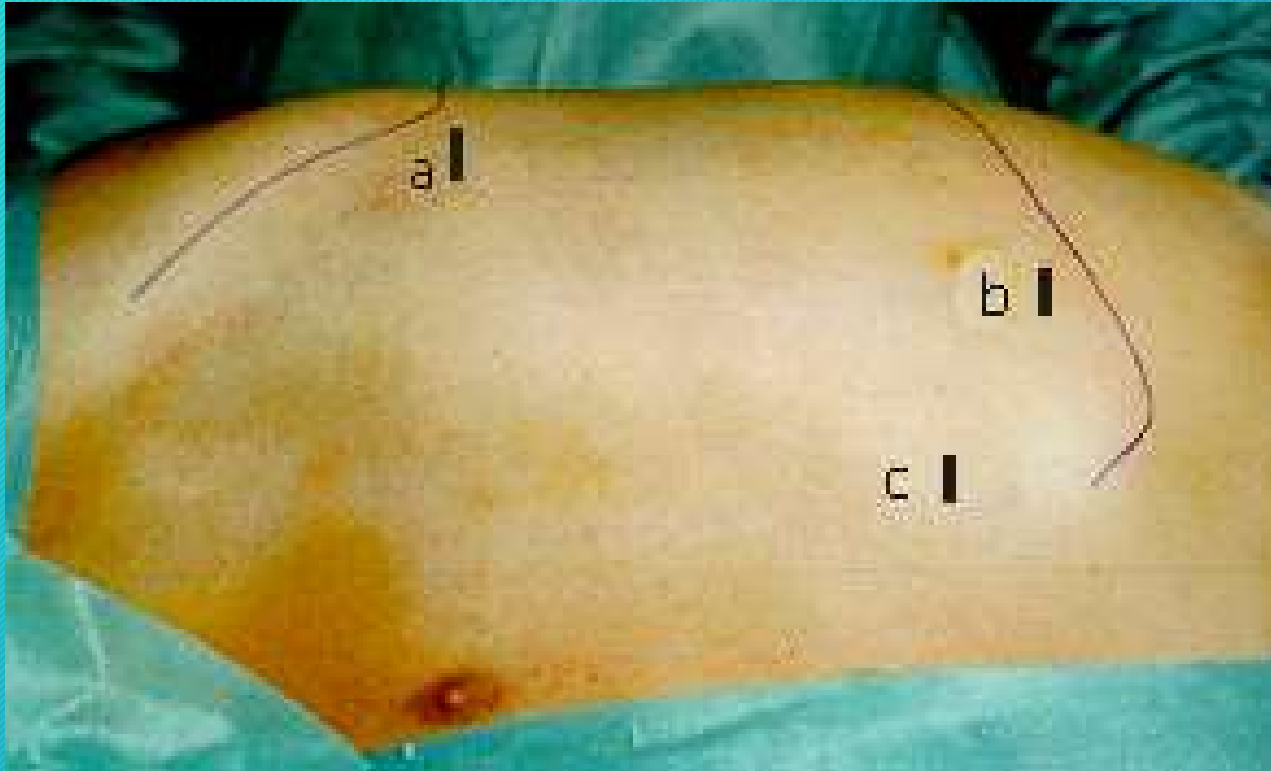
Tecnica bioptica: VIDEOTORACOSCOPIA

GOLD STANDARD

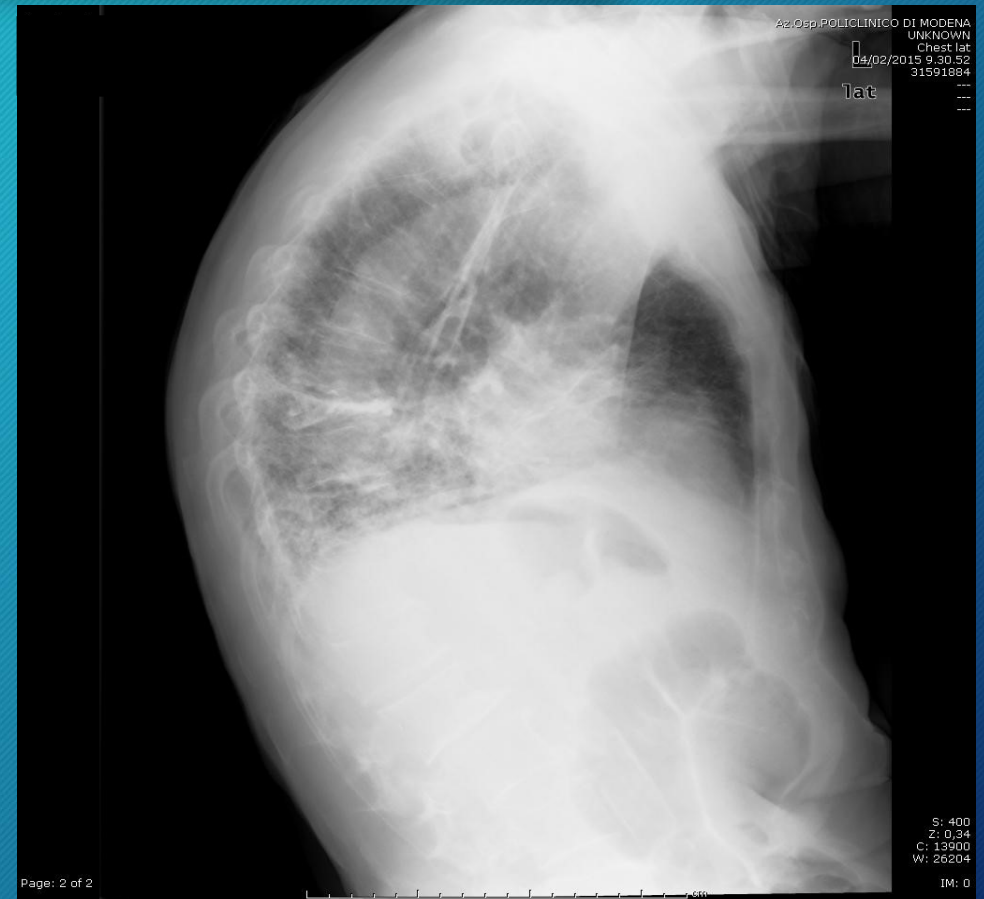
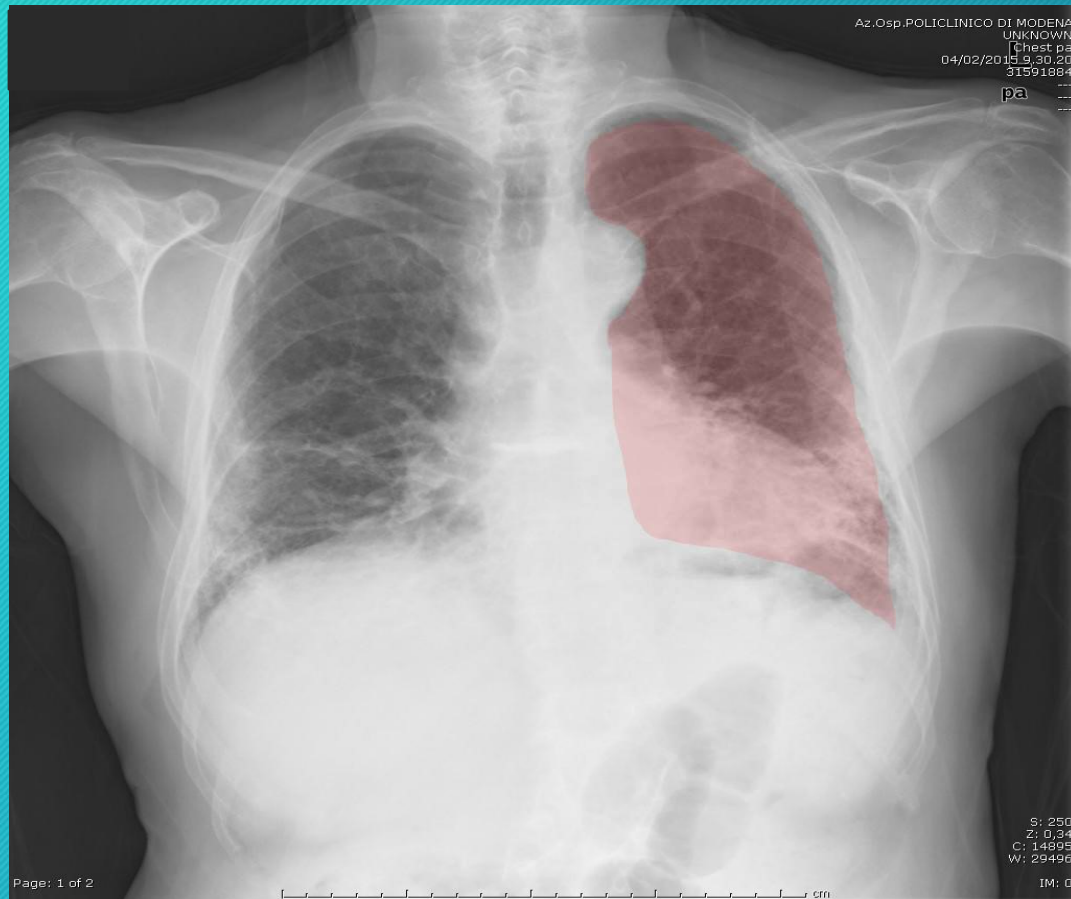




VATS - Accessi chirurgici



il lato - POLMONE SINISTRO



Numero e sede dei prelievi

American Thoracic Society

American Thoracic Society/European Respiratory Society International Multidisciplinary Consensus Classification of the Idiopathic Interstitial Pneumonias

THIS JOINT STATEMENT OF THE AMERICAN THORACIC SOCIETY (ATS), AND THE EUROPEAN RESPIRATORY SOCIETY (ERS) WAS ADOPTED BY THE ATS BOARD OF DIRECTORS, JUNE 2001 AND BY THE ERS EXECUTIVE COMMITTEE, JUNE 2001

- Prelevare campioni da più di un lobo del polmone;
- Cercare di biopsiare tutti gli stadi di evoluzione della fibrosi;
- I prelievi non devono essere fatti tutti nelle zone che appaiono più fibrotiche (**honeycomb pattern**);
- Campioni di almeno 2-3 cm possono essere diagnostici.

3986616
16/08/1940
74 YEAR
M

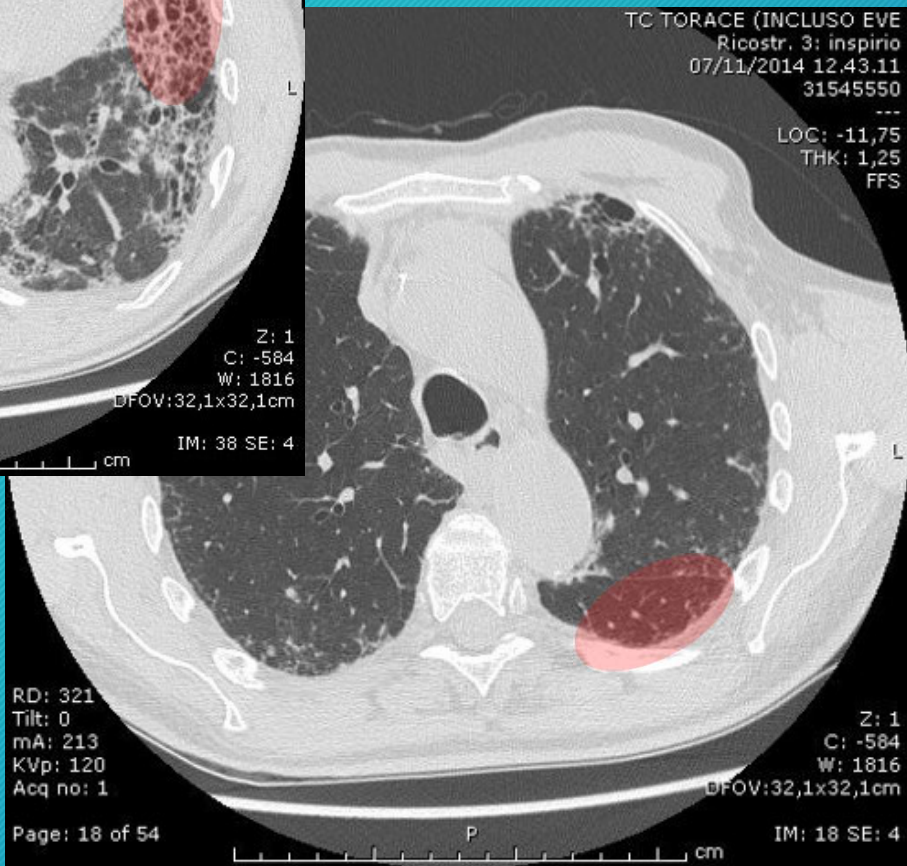
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Ricostr. 3: inspirio
07/11/2014 12.43.11
31545550

LOC: -111,75
THK: 1,25
FFS



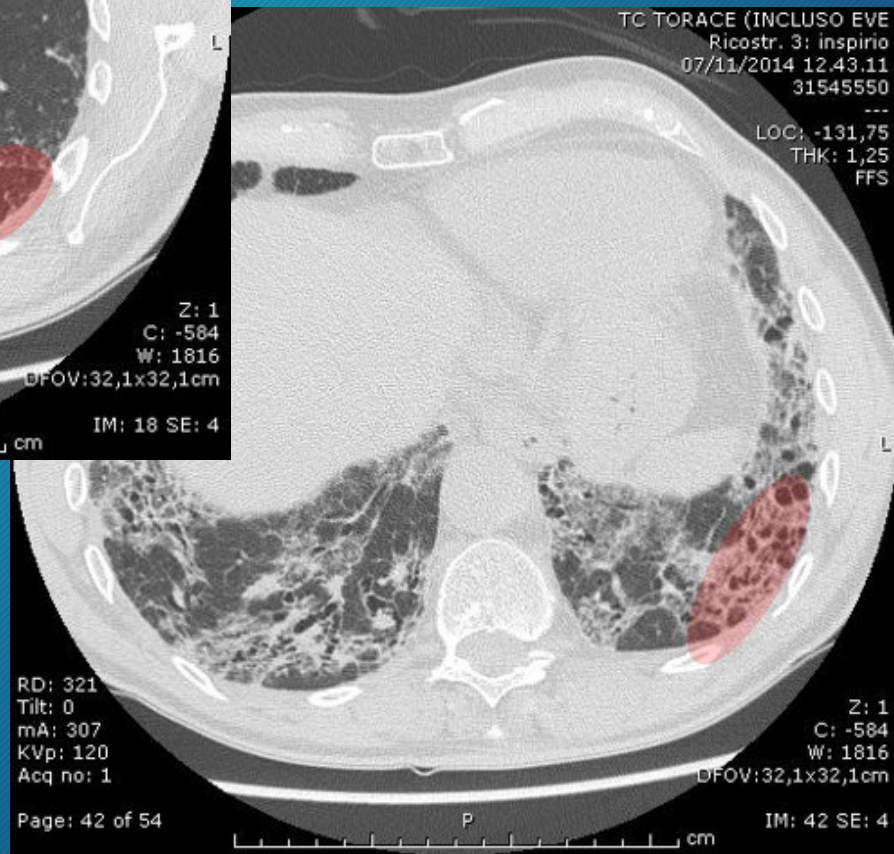
TC TORACE (INCLUSO EVE
Ricostr. 3: inspirio
07/11/2014 12.43.11
31545550

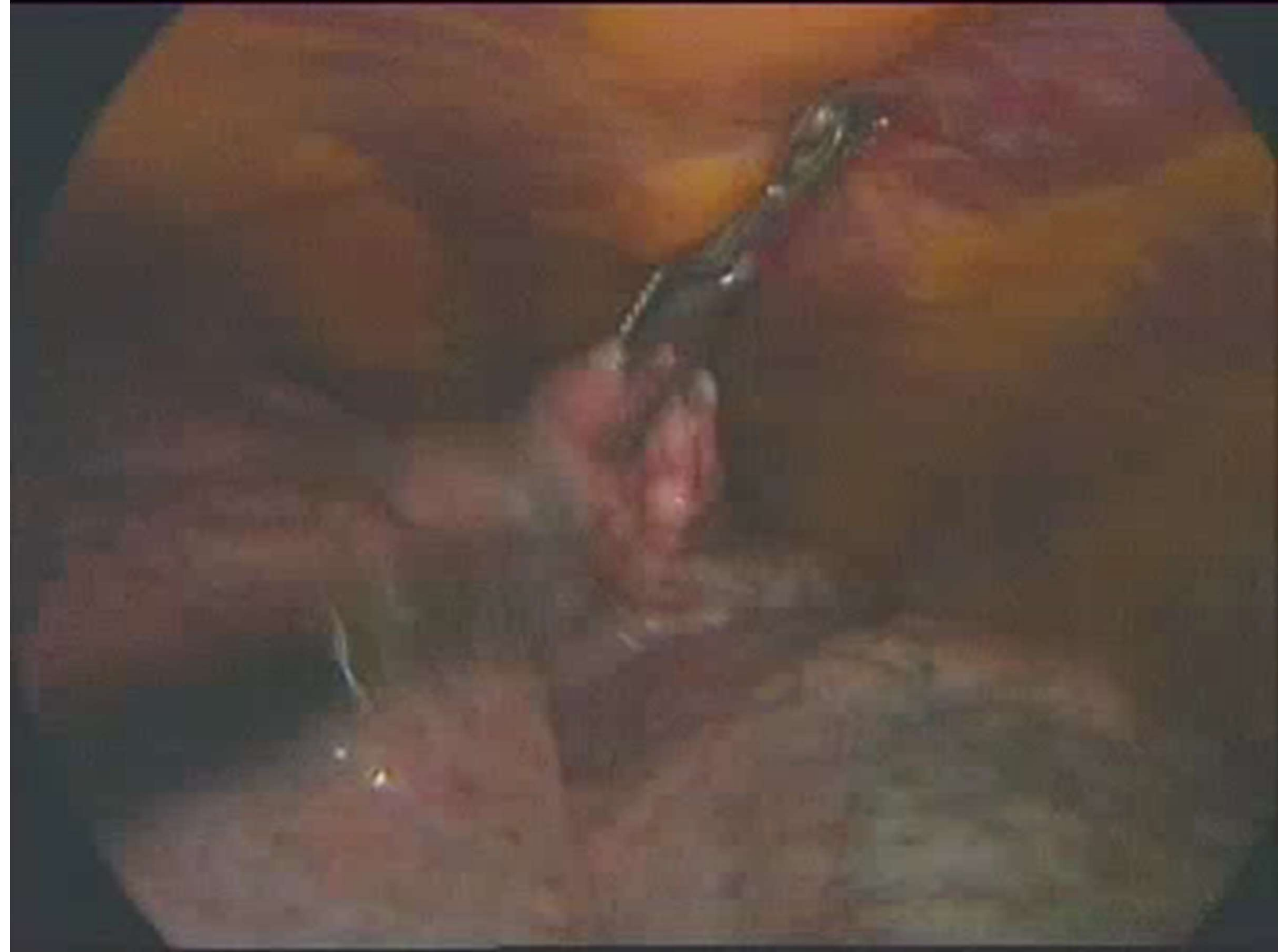
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THK: 1,25
FFS



TC TORACE (INCLUSO EVE
Ricostr. 3: inspirio
07/11/2014 12.43.11
31545550

LOC: -131,75
THK: 1,25
FFS





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16/08/1940
74 YEAR
M

CHEST, TORACE A LETTO
TORACE A LETTO
05/02/2015 20.36.11
31594636



Resa diagnostica

Table 4. Diagnostic utility of surgical lung biopsy

Author	Ref #	Year	Number of Patients		Confident Diagnosis (%)		Comments
			OLB	VATS	OLB	VATS	
Ray	27	1976	416	—	100%	—	Dx: 29% "non-specific pulmonary disease"
Gaensler	28	1980	360	0	94.4%	—	Dx: IP-130(25.9%); UIP-64
Venn	29	1985	101	0	91%	—	Dx: CFA-51
Wetstein	30	1986	20	0	100%	—	Biopsy of lingual compared to other area
Shah	31	1992	432	0	94.9%	—	Dx: CFA-173; malignancy-55
Bensard	32	1993	21	22	100%	95%	
Ferson	33	1993	28	47	100%	100%	
Bentzon	34	1994	0	9	—	100%	
Molin	35	1994	21	16	95%	94%	UIP most common
Krasna	36	1995	—	26	—	100%	UIP; location of biopsy.
Mouroux	37	1997	25	41	100%	97.3%	
Kramer	26	1998	103	0	87%	—	39 subjects were ICH; CIT: 46%
Ravini	38	1998	68	65	92.6%	86.2%	Final diagnosis predominantly sarcoidosis (VATS 47, OLB 55)
Zedgi	39	1998	0	64	—	92.2%	Dx: 19 IPF
Rena	40	1999	0	58	—	86%	DX: 14 IPF, 10 sarcoidosis
Petrakis	41	2000	0	104	—	98.5%	Dx: 6 interstitial fibrosis, 6 BOOP
Ayed	42	2000	29	32	93.1%	97%	
Miller	43	2000	22	20	100%	100%	DX:UIP
Blewett	44	2001	32	0	100%	—	Dx: 26 UIP
Chang	46	2002	0	37	—	96.3%	
Qureshi	47	2002	30	70	42% Overall		Of those patients given a specific diagnosis, 59.5% had therapy altered
Yamaguchi	48	2004	0	30	—	100%	Dx: IPF 12, NSIP: 7
Lee	57	2005	74	122	100%	100%	Dx: 30% infection, 13.3% neoplasm
Lettieri	56	2005	23	60	100%	100%	Approximately 40% with IPF mis-diagnosed prior to SLB
Ooi	50	2005	15	55	100%	100%	37.1% had UIP
Kreider	52	2007	0	68	—	75%	23 (34%) had UIP; 23.5% non-classifiable
Ishie	53	2009	0	48	—	98.0%	Dx: 14 UIP; Non-specific honeycombing 1
Sigurdsson	58	2009	45	28	81% Overall		Clinical diagnosis changed for 73%; Change in therapy for 53%; 19% (non-specific inflammation or non-specific interstitial fibrosis)
Guerra	54	2009	16	37	94.3% Overall		
Zhang	55	2010	200	129	92%;	89.1%	

Abbreviations: BOOP=bronchiolitis obliterans organizing pneumonia; Dx=diagnosis; CFA=cryptogenic fibrosing alveolitis; CIT=change in treatment; ICH=immunocompromised host; IP=interstitial pneumonia; IPF=idiopathic pulmonary fibrosis; OLB=open lung biopsy; SLB=surgical lung biopsy; UIP=usual interstitial pneumonia; VATS=video-assisted thorascopic surgery

La biopsia in VATS consente una diagnosi di interstiziopatia nel 90-100% dei casi

Controindicazioni tecniche alla biopsia in VATS

- Fibrotorace e aderenze;
- Impossibilità a mantenere la ventilazione monopolmonare;
- Obesità di III grado (BMI >40).

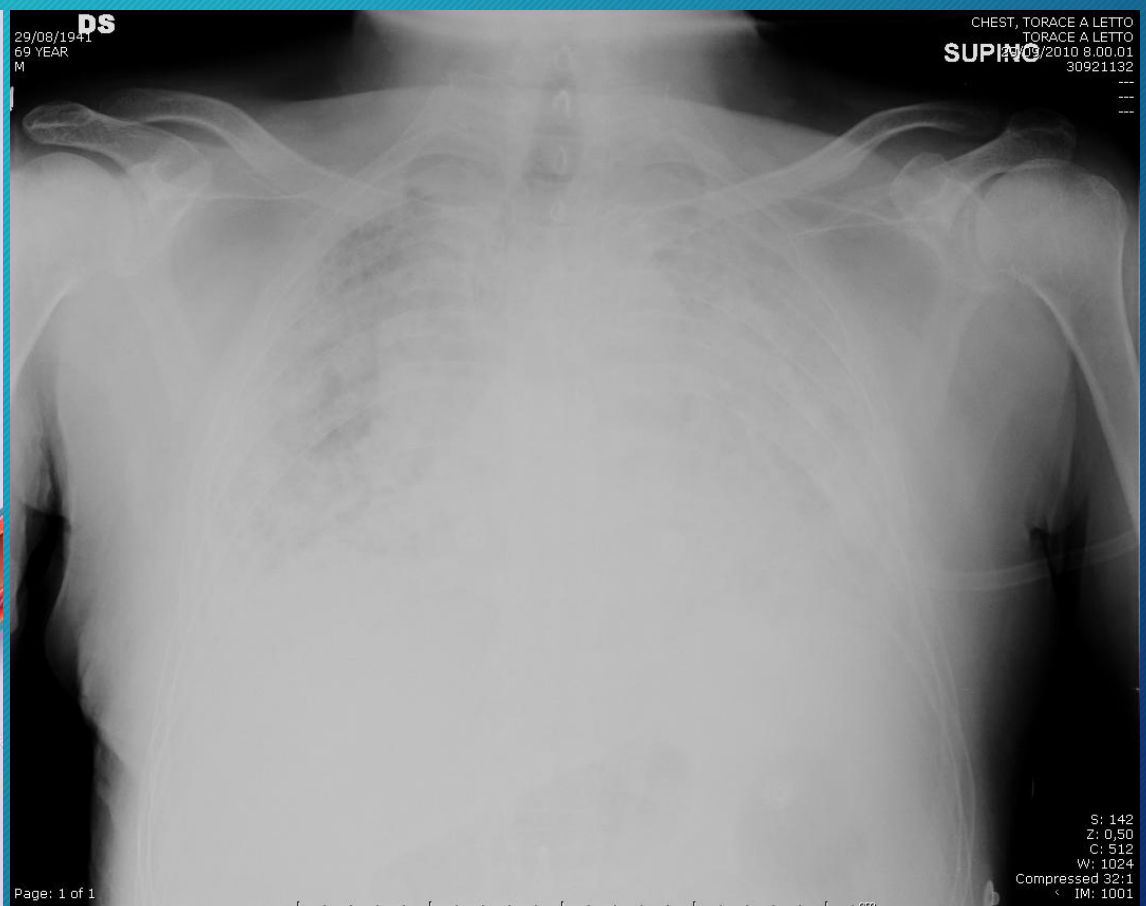
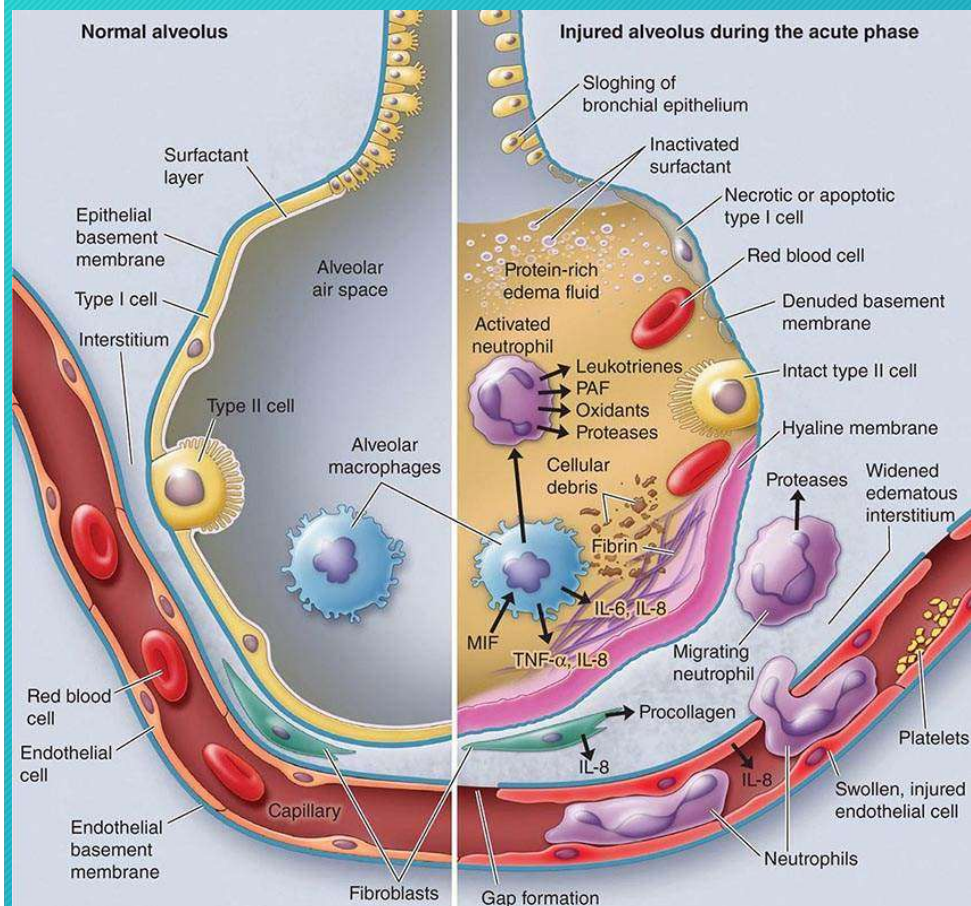
Fattori di rischio di tipo funzionale

Analysis of risk factors for 30-day mortality in total patients with idiopathic interstitial pneumonia

Variable	Odds ratio	95% Confidence interval	p-value
Univariate analysis after adjustments for age, gender, smoking, and pathologic diagnosis			
Dyspnea (MRC score)	2.331	1.116–4.869	0.024
FVC (%)	0.947	0.900–0.997	0.037
DL _{CO} (%)	0.928	0.878–0.981	0.008
AaDO ₂ (mmHg)	1.034	0.997–1.071	0.071
AE at the time of biopsy	20.7	3.568–120.465	0.001
Multivariate analysis of risk factors in total patients with idiopathic interstitial pneumonia			
Age	1.012	0.925–1.108	N.S.
Male	2.794	0.433–18.010	N.S.
IPF/non-IPF	1.017	0.147–7.058	N.S.
FVC (%)	0.981	0.921–1.043	N.S.
DL _{CO} (%)	0.946	0.887–1.010	0.096
AE at the time of biopsy	11.334	1.727–74.365	0.011

AE: acute exacerbation.

ARDS - AIP



Rischio di esacerbazione acuta

Dipendente da:

- Invasività della procedura;
- Durata dell'intervento;
- Durata dell'anestesia e ventilazione meccanica ad alti flussi di ossigeno;
- Condizioni funzionale respiratorie del paziente.

Mortalità e morbidità

Postoperative complication and mortality of surgical lung biopsy

Cx	IPF			NSIP	COP
	Total	AE at the time of biopsy	Non-AE		
Total number	140	7	133	46	14
30-day mortality	6 (4.3%)	2 (28.6%) ^a	4 (3.0%) ^a	2 (4.3%)	0 (0.0%)
90-day mortality	12 (8.6%)	3 (42.9%) ^{a,b}	9 (6.8%) ^a	4 (8.7%) ^b	1 (7.1%)
Postoperative complication	21 (15.0%)	4 (57.1%) ^{a,b}	17 (12.8%) ^a	4 (8.7%) ^{b,c}	5 (35.7%) ^c
Prolonged air leak	9 (6.4%) ^d	1 (14.3%)	8 (6.0%) ^d	3 (6.5%) ^c	4 (28.6%) ^{c,d}
Induction of AE	2 (1.4%)	0 (0.0%)	2 (1.5%)	1 (2.2%)	0 (0.0%)
Pneumonia	6 (4.3%)	0 (0.0%)	6 (4.5%)	0 (0.0%)	0 (0.0%)
Pleural effusion	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (7.1%)
Empyema	1 (0.7%)	0 (0.0%)	1 (0.8%)	0 (0.0%)	0 (0.0%)
Prolonged ventilation (>72 h)	7 (5.0%)	3 (42.9%) ^{a,b}	4 (3.0%) ^a	0 (0%) ^b	1 (7.1%)

AE: acute exacerbation.

^a Non-AE vs AE ($p < 0.05$).

^b AE-IPF vs NSIP ($p < 0.05$).

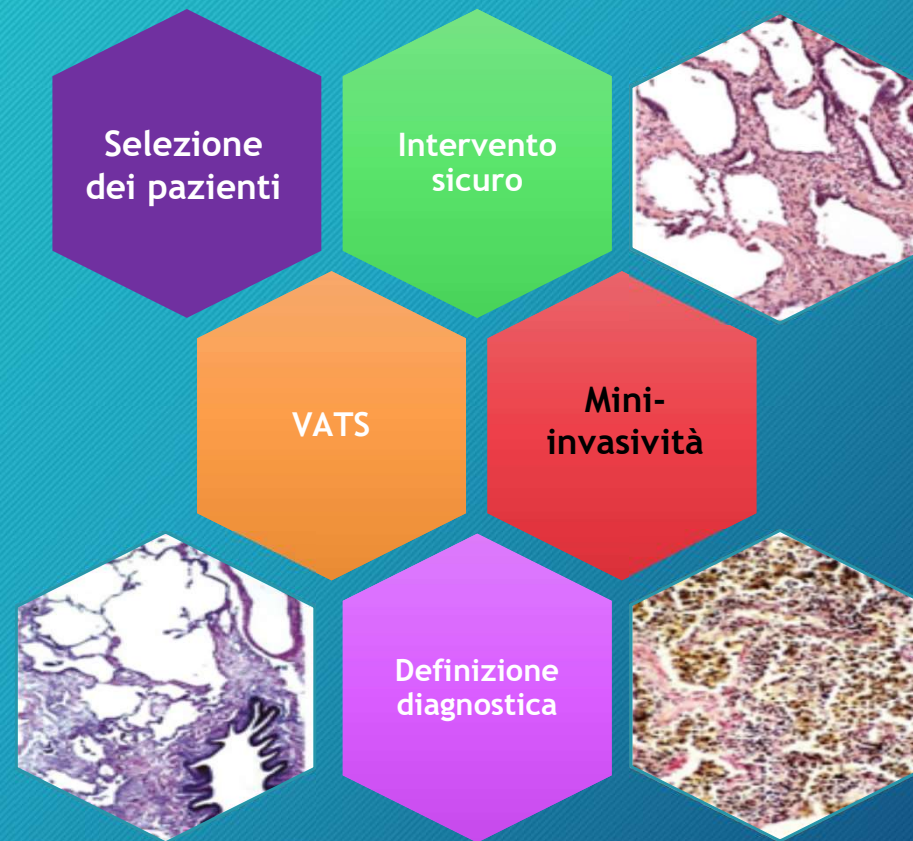
^c NSIP vs COP ($p < 0.05$).

^d IPF vs COP ($p < 0.05$).

Il punto di vista del paziente



Take-home messages



Grazie dell'attenzione!

Un sentito ringraziamento al prof. A. Stefani
Chirurgia Toracica -AOU Policlinico di Modena
(Direttore prof. U. Morandi)