A quick radiologic review of the ATS/ERS/JRS/ALAT diagnostic criteria for IPF

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The revised ATS/ERS/JRS/ALAT diagnostic criteria for idiopathic pulmonary fibrosis (IPF)

<table>
<thead>
<tr>
<th>UIP Pattern (all 4 features)</th>
<th>Possible UIP Pattern (all 3 features)</th>
<th>Inconsistent with UIP Pattern (any of the 7 features)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Subpleural, basal predomina</td>
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<td>- Upper or mid-lung predominance</td>
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<td>- Reticulation</td>
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<td>- Peribronchovascular predominance</td>
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<td>- Absence of features listed as incons</td>
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<td>- Profuse micronodules</td>
</tr>
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<td>with UIP pattern</td>
<td>- Discrete cysts</td>
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<td></td>
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<td>- Consolidation</td>
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</tbody>
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* UIP = usual interstitial pneumonia (the pathological pattern of IPF)
Consistent with UIP Pattern (All Four Features)

- Subpleural, basal predominance
- Reticular abnormality
- Honeycombing with or without traction bronchiectasis
- Absence of features listed as inconsistent with UIP
Consistent with UIP
Honeycombing with or without traction bronchiectasis

Honeycombing is the key feature for the diagnosis of “consistent with UIP”

Well-circumscribed cystic spaces which share walls located in the subpleural regions, often stacked in layers.
Consistent with UIP
Reticular abnormality

Increased linear and reticular opacities are caused by interstitial thickening secondary to fibrosis.
Consistent with UIP Pattern
Subpleural and basal predominance (apicobasal gradient)
Possible UIP Pattern
(All Three Features)

- Subpleural, basal predominance
- Reticular abnormality
- Absence of features listed as inconsistent with UIP pattern

(NO honeycombing)
Possible UIP Pattern
Subpleural, basal predominance

Subpleural reticulation often with traction bronchiectasis but NO honeycombing and in the absence of features listed as inconsistent with UIP
Possible UIP Pattern

Reticular abnormality

Subpleural reticulation often with traction bronchiectasis but NO honeycombing and in the absence of features listed as inconsistent with UIP
Inconsistent with UIP Pattern (any of the Seven Features)

- Upper or mid-lung predominance
- Peribronchovascular predominance
- Extensive ground-glass abnormality (extent > reticular abnormality)
- Profuse micronodules (bilateral, predominantly upper lobes)
- Discrete cysts (multiple, bilateral, away from areas of honeycombing)
- Diffuse mosaic attenuation/air-trapping (bilateral in three or more lobes)
- Consolidation in bronchopulmonary segment(s)/lobe(s)
Inconsistent with UIP Pattern
Upper or mid-lung predominance

Honeycombing, traction bronchiectasis, architectural distortion, subpleural reticular abnormality with upper lobe predominance in a case of sarcoidosis.
Inconsistent with UIP Pattern
Upper or mid-lung predominance

Subpleural reticular abnormality and traction bronchiectasis with early honeycombing, more severe in the upper lobes and sparing the lower lobes in a case of chronic hypersensitivity pneumonitis.
Inconsistent with UIP Pattern
Peribronchovascular predominance and consolidation

Traction bronchiectasis and architectural distortion (fibrosis) with predominant peribronchovascular distribution along with areas of consolidation in a patient with rheumatoid arthritis. Pattern favors NSIP.
Subpleural reticular abnormalities (fibrotic changes) and traction bronchiectasis in a subpleural location. Ground-glass opacities are present away from areas of reticulation, being the predominant feature in this patient with NSIP pattern.
Inconsistent with UIP Pattern

Extensive ground-glass (>reticular abnormality)

Bilateral ground-glass opacities are more extensive than reticulation in this patient with chronic hypersensitivity pneumonitis. There is traction bronchiectasis and a mosaic perfusion pattern with air-trapping accentuated in the expiratory views.
Inconsistent with UIP Pattern
Profuse micronodules (bilateral, predominantly upper lobes)

Respiratory bronchiolitis interstitial lung disease (RB-ILD). Multiple bilateral disseminated centrilobular nodules. There are mild fibrotic changes in the lower lungs.
Inconsistent with UIP Pattern
Discrete cysts (multiple, bilateral, away from areas of honeycombing)

Multiple discrete cysts and mild fibrotic changes of bronchiectasis and reticulation in a case of lymphocytic interstitial pneumonitis (LIP). Cysts are away from areas of fibrosis (arrows).
Inconsistent with UIP Pattern
Diffuse mosaic attenuation/air-trapping (bilateral in three or more lobes)

Mild subpleural reticular abnormalities associated with a mosaic perfusion pattern with areas of air-trapping as well as ground-glass opacities in hypersensitivity pneumonitis.
Inconsistent with UIP Pattern
Consolidation in bronchopulmonary segments/lobes

Subpleural reticular abnormalities and traction bronchiectasis (fibrotic changes) along with patchy consolidations in systemic lupus erythematosus (SLE). The consolidations presumably reflect organizing pneumonia-reaction.
Inconsistent with UIP Pattern
Consolidation in bronchopulmonary segments/lobes

Subtle subpleural reticulation in the lower lobe and peribronchovascular consolidations in the upper lobes in a patient with end-stage sarcoidosis. The areas of consolidation reflect progressive massive fibrosis.
Reference:


Further Reading:


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