

# ANTI-SYNTHETASE SYNDROME VS RHEUMATOID ARTHRITIS: THE REAL CULPRIT IN A CASE OF ILD

Bonit Gill DO<sup>1</sup>; Allan Goldman MD<sup>1</sup>

Aurora Health Care Internal Medicine Residency Program, Milwaukee, WI<sup>1</sup>

## Introduction

Anti-Synthetase Syndrome (ASS) is a rare, multisystemic autoimmune entity which can manifest with myositis, arthritis, Raynaud's phenomenon, and interstitial lung disease. ASS is supported by a positive anti-Jo1 antibody and muscle biopsy.

## Patient Course

A 60-year-old male, presented to the office after an abnormal chest CT, showing subpleural reticulation and groundglass opacities.

A year prior to presentation, the patient was suffering from DIP/PIP swelling, and dry, flaky skin.

Rheumatologic work up was done which was positive for elevated Anti-Jo1, elevated rheumatoid factor, and CCP antibodies. He complained of increased joint swelling and stiffness.



Figure 1. Mechanic's hands seen in Anti-Synthetase Syndrome. (uptodate.com, courtesy of John H. Stone MD, MPH)

He was diagnosed with Anti-Synthetase disorder after presenting with the classic "Mechanic's hands" dermatitis specific to the diagnosis of ASS. (figure 1)

The patient was diagnosed with an overlap syndrome: Rheumatoid Arthritis and Anti-Synthetase Syndrome. High resolution CT of the lungs was repeated (figure 2), due to worsening SOB and medication non-compliance, which showed a progressive pulmonary fibrosis with Usual interstitial pneumonia (UIP). This UIP pattern is seen in both RA and ASS, and importantly, in an overlap syndrome of both disorders.



Figure 2 High-res CT chest showing honeycombing, UIP pattern in patient, consistent with RA/ASS

He was started on Prednisone, HCQ, and Methotrexate, however has remained non-compliant on these medications

## Discussion

Many patients with Anti-Synthetase Syndrome suffer from additional rheumatologic disorders, including Rheumatoid Arthritis (RA).

The diagnosis criteria for Anti-Synthetase Syndrome is outlined in Table 1.

Table 1

Proposed Diagnostic Criteria for Anti-synthetase Syndrome

Connors et al. (2010) (1)	Solomon et al (2011) (10)
<b>Required:</b> Presence of an anti-aminoacyl tRNA synthetase antibody	<b>Required:</b> Presence of anti-aminoacyl tRNA synthetase antibody
<b>PLUS one or more of the following clinical features:</b>	<b>PLUS two major or one major and two minor criteria:</b>
<ul style="list-style-type: none"><li>• Raynaud's phenomenon</li><li>• Arthritis</li><li>• Interstitial lung disease</li><li>• Fever (not attributable to another cause)</li><li>• Mechanic's hands (thickened and cracked skin on hands, particularly at fingertips)</li></ul>	<b>Major:</b> <ol style="list-style-type: none"><li>1. Interstitial Lung Disease (not attributable to another cause)</li><li>2. Polymyositis or dermatomyositis by Bohan and Peter criteria</li></ol> <b>Minor:</b> <ol style="list-style-type: none"><li>1. Arthritis</li><li>2. Raynaud's phenomenon</li><li>3. Mechanic's hands</li></ol>

Table 1. The Diagnosis and Treatment of Anti-Synthetase Syndrome; Witt, L, Curran, J

Although both syndromes can independently cause ILD, this case shows a rare overlap of two separate rheumatologic disorders resulting in a devastating pulmonary outcome.

Both disorders cause a similar UIP picture in this patient. Anti-Synthetase Syndrome, albeit a rare disorder, can be hidden behind the common diagnosis of RA.