

**ONLINE DATA SUPPLEMENT**

**Rituximab in the treatment of interstitial lung disease associated with antisynthetase  
syndrome: a multi-center retrospective case review**

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Table S1: Scoring of HRCT Findings

<b>Overall HRCT score (%) = average score of normal attenuation x 1</b>
<b>+ Average score of GGA without traction bronchiectasis or bronchiolectasis x 2</b>
<b>+ Average score of consolidation without traction bronchiectasis or bronchiolectasis x 3</b>
<b>+ Average score of GGA with traction bronchiectasis or bronchiolectasis x 4</b>
<b>+ Average score of consolidation with traction bronchiectasis or bronchiolectasis x 5</b>
<b>+ Average score of honeycombing x 6</b>

Adapted from Fujimoto K, Eur Radiol 2012; 22:83-92 [REF 40] and Ichikado K, Am J Respir Crit Care Med 2002; 165:1551-1556 [REF 41].

Table S2: Comparison of individual pre and post RTX CT score, PFT measurements, and prednisone dose at 1 and 3 years of follow-up in 13 BWH and 12 UPMC subjects included in this study.

BWH	CT Score			FVC%			TLC%			DLCO%			Prednisone Dose (mg)		
	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs
Subject 1	117.5	120**	.	95	.	110*	.	.	78	87	.	99	5	.	.
Subject 2	125.1	.	113.7	65	83	86	62	75	88	40	55	64	20	20	4
Subject 3	212.4	217	.	41	42	.	.	50	.	40	21	.	30	2.5	.
Subject 4	237.4	.	.	63	65	.	53	58	.	36	36	.	40	.	.
Subject 5	195.8	.	.	50	56	77	40	49	61	39	37	.	15	5	2.5
Subject 6	223.2	186.6	.	44	42	.	43	.	.	39	28	.	20	40	.
Subject 7	181.6	172.5	.	47	79	96	.	62	72	.	42	53	20	7	3
Subject 8	256.5	.	235.4	45	.	54	.	.	46	.	.	32	20	.	.
Subject 9	206.5	.	.	51	75	.	46	62	.	35	39	.	20	0	.
Subject 10	139.2	.	.	58	63	.	74	78	.	50	57	.	5	5	.
Subject 11	158.7	.	.	48	54	.	45	49	.	27	31	.	15	9	.
Subject 12	206.5	130.8	.	89	100	.	.	94	.	66	76	.	30	15	.
Subject 13	141.3	.	166.3	.	.	.	.	.	.	.	.	.	.	.	.
UPMC	CT Score			FVC%			TLC%			DLCO%			Prednisone Dose (mg)		
	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs	Baseline	1Yr	3Yrs
Subject 1	.	.	.	59	60	.	.	.	.	29	26	.	6	5	.
Subject 2	257.9	278.8	.	39	33	.	.	42	.	42	18	.	30	10	.
Subject 3	271.6	.	.	52	43	.	.	.	.	18	10	.	21	20	.
Subject 4 <sup>&amp;</sup>	128.7	.	.	40	.	46	.	.	56	55	.	52	30	.	15
Subject 5	137.1	.	.	72	70	.	.	.	.	30	30	.	15	15	.
Subject 6 <sup>&amp;</sup>	119.6	201.6	.	85	.	.	87	.	.	51	.	.	75	.	.
Subject 7	255.4	250.8	.	72	62	.	.	58	.	68	38	.	20	5	.
Subject 8	275.3	.	127.1	46	58	67	.	.	.	38	50	64	30	40	.
Subject 9	.	.	.	76	34	.	70	77	.	48	34	.	0	0	.
Subject 10	110.4	.	.	63	.	.	.	.	.	26	.	.	20	.	.

<b>Subject 11</b>	.	.	.	68	91	.	80	.	.	29	.	.	40	.	.
<b>Subject 12</b>	.	.	.	32	33	.	42	.	.	27	29	.	12.5	5	.

\*Cells highlighted in green demonstrate improvement defined as  $\geq 10\%$  decrease in CT score,  $\geq 10\%$  increase in FVC%, TLC%, or DLCO% or a decrease in prednisone dose when compared to baseline values. \*\*Cells highlighted in blue demonstrate stability defined as a  $\leq 10\%$  increase in CT score,  $\leq 10\%$  decrease in FVC%, TLC%, or DLCO% or no change in prednisone dose when compared to baseline values.

&UPMC Subject 4 died from respiratory failure secondary to progression of underlying ILD 2 years after receiving RTX; UPMC Subject 6 died from anoxic brain injury 10 years after receiving RTX.

Abbreviations: RTX – Rituximab, CT – Computed tomography, PFTs - Pulmonary function tests, BWH - Brigham and Women’s Hospital, UPMC – University of Pittsburgh Medical Center, FVC% - Forced vital capacity (% predicted), TLC% - Total lung capacity (% predicted), DLCO% - Diffusion capacity of carbon monoxide (% predicted), Yr – Year

Table S3: Subgroup analyses for individuals with both baseline and 1 year follow up CT scans or PFTs comparing averages at baseline and 1 year with the average individual change (p-value)

	CT scan score n=8		FVC% n=19		TLC% n=7		DLCO% n=17	
	Pre vs. 1 yr post	Ave Ind Δ (p-value)*	Pre vs. 1 yr post	Ave Ind Δ (p-value)*	Pre vs. 1 yr post	Ave Ind Δ (p-value)*	Pre vs. 1 yr post	Ave Ind Δ (p-value)*
<b>All subjects n=25</b>	197 vs. 195	-2.0 (0.84)	56 vs. 60	+3.7 (0.18)	56 vs. 64	+8.3 (0.016)	40 vs. 36	-3.4 (0.46)
<b>Jo1 n=16</b>	191 vs. 196	+5.0 (0.81)	64 vs. 65	+1.2 (0.70)	63 vs. 73	+10 (0.13)	43 vs. 38	-4.3 (0.57)
<b>PL12 n=6</b>	197 vs. 195	-2.3 (1.0)	43 vs. 53	+10.4 (0.063)	N/A	N/A	33 vs. 33	-0.25 (0.88)
<b>PL7 n=3</b>	N/A	N/A	52 vs. 54	+2 (0.75)	47 vs. 54	+7 (0.50)	38 vs. 34	-4.3 (0.50)
<b>NSIP n=9</b>	184 vs. 175	-10 (1.0)	54 vs. 61	+7 (0.07)	53 vs. 63	+9.2 (0.063)	38 vs. 37	-0.25 (0.89)
<b>NSIP/COP n=4</b>	150 vs. 187	+36 (1.0)	55 vs. 72	+17 (0.50)	N/A	N/A	N/A	N/A
<b>Fibrotic ILD n=4</b>	232 vs. 205	-27 (1.0)	60 vs. 59	-1.3 (1.0)	N/A	N/A	42 vs. 35	-7.3 (0.75)
<b>CT score &gt; 194 / n=11</b>	N/A	N/A	55 vs. 58	+2.9 (0.47)	46 vs. 56	+10 (0.25)	42 vs. 35	-6.8 (0.25)
<b>CT score ≤ 194 / n=10</b>	N/A	N/A	58 vs. 63	+4.7 (0.24)	63 vs. 70	+7 (0.13)	36 vs. 37	+1.6 (0.56)
<b>FVC &lt; 50 n=9</b>	2.19 vs. 214	-5 (0.88)	N/A	N/A	N/A	N/A	36 vs. 30	-6 (0.56)
<b>FVC ≥ 50 n=15</b>	174 vs. 176	+1.1 (1.0)	N/A	N/A	58 vs. 67	+9 (0.031)	42 vs. 40	-2 (0.91)
<b>TLC% &lt; 50 n=5</b>	208 vs. 194	-14 (0.38)	53 vs. 58	+4.6 (0.29)	N/A	N/A	38 vs. 33	-5 (0.35)
<b>TLC% ≥ 50 n=4</b>	N/A	N/A	66 vs. 67	+1.2 (0.63)	N/A	N/A	44 vs. 46	+2 (0.75)
<b>DLCO% &lt;35 n=7</b>	N/A	N/A	54 vs. 61	+7.4 (0.34)	N/A	N/A	N/A	N/A
<b>DLCO% ≥35 n=15</b>	199 vs. 198	-1.0 (1.0)	58 vs 59	+1.6 (0.37)	58 vs 67	+9 (0.031)	N/A	N/A
<b>RTX as rescue tx n=21</b>	198 vs. 209	+11.5 (0.69)	56 vs. 56	+0.27 (0.67)	58 v. 64	+8.3 (0.016)	39 vs. 34	-4.6 (0.29)
<b>RTX as initial tx n=4</b>	194 vs. 152	--42 (0.50)	59 vs. 76	+16.8 (0.13)	N/A	N/A	47 vs. 53	+6 (0.50)
<b>No Concurrent Immumosuppression n=12</b>	226 vs. 221	-5 (0.63)	48 vs. 54	+8 (0.32)	60 vs. 70	+10 (0.34)	43 vs. 33	-10 (0.12)
<b>Concurrent Immumosuppression n=9</b>	119 vs. 161	+42 (0.48)	57 vs. 57	-0.8 (0.92)	54 vs. 62	+8 (0.009)	34 vs. 35	+0.5 (0.89)

\* P-value < 0.05 as calculated by Wilcoxon signed rank sum test.

N values are number of total cohort (n=25) that belong in that subgroup. N/A denotes cells with only 1 value.

Abbreviations: CT – Computed tomography, PFTs - Pulmonary function tests, NSIP – Non-specific interstitial pneumonia, COP – Cryptogenic organizing pneumonia, ILD – Interstitial lung disease, FVC% - Forced vital capacity (% predicted), TLC% - Total lung capacity (% predicted), DLCO% - Diffusion capacity of carbon monoxide (% predicted), RTX – Rituximab