

Online Resource 5. Individual-level characteristics of included cases with coexisting ANCA-associated glomerulonephritis and membranous nephropathy

Author	Year	Country	Age	Sex	Comorbidity	Malignancy	Autoimmune diseases other than ANCA(0/1)	Cre	PU	RPGN(0/1)	Hematuria	ANCA	PLA2R serum	PLA2R kidney	TSHD7A	IgG subclass	Crescent	Extrarenal lesions	Treatment	Outcome Cre	Outcome UP	Remission	Timing	Trigger/etiology	
Nakada Y [13]	2015	Japan	70	M	Sick sinus syndrome, interstitial pneumonia, angina pectoris	0	0	3.2	5.12	1	1	p-ANCA; MPO/PR3 negative	NR	NR	NR	NR	0.92	E, L	PO steroids		RRT	NR	NR	Concurrent	
Kim YH [14]	2015	Korea	65	M	HT	0	0	9.7	5.62	1	1	p-ANCA 1:8 antibody index	NR	NR	NR	NR	0.474	ENT, L	IV/PO steroids, PO CPA		RRT	NR	NR	Concurrent	
Matsuda J [15]	2013	Japan	71	M	COPD	0	0	2.7	4.35	1	1	Elastase 11.5 (>4.0, positive); BPI 5.3 (>4.0, positive)	NR	NR	NR	NR	0.7	None	IV/PO steroids	1.5	<0.5	NR	Concurrent		
Hu Z [16]	2014	China	51	F	HT	0	0	1.4	11	1	1	MPO 62 IU/ml	+ (16.4 µg/ml)	+	NR	IgG4 dominant	0.58	None	IV/PO steroids, PO CPA	1.36	4.29	NR	Concurrent		
Mahmood SB [17]	2019	USA	63	F	HCV	0	0	NR	8.04	0	1	MPO	-	NR	NR	IgG4 normal (not elevated)	0	ENT, L, N	PO steroids, RTX, mepolizumab, omalizumab	NR	0.95	NR	Concurrent		
Fujii T [18]	2003	Japan	64	M	HTH	0	0	1.75	1.4	1	1	MPO 74 EU; PR3 33 EU	NR	NR	NR	NR	0.44	None	IV/PO steroids, change PTU to MMI	1.2	0.7	NR	Concurrent	PTU-induced	
Shimada M [19]	2013	Japan	73	M	HT, GU, Vasospastic angina, Colon cancer	1	0	5.4	2.3	1	1	MPO >640 EU	NR	NR	NR	IgG4 not dominant	0.73	None	IV/PO steroids		RRT	NA	NR	Concurrent	
Uyama S [20]	2013	Japan	72	F	None	0	0	4.05	2.28	1	1	MPO 38 IU/ml	NR	NR	NR	IgG4 negative	0.35	None	IV/PO steroids	2.0-3.0	around 1	NR	Concurrent		
Takahashi N [21]	2009	Japan	56	M	None	0	0	2.6	5.6	1	1	MPO 640 IU/ml	NR	NR	NR	NR	0.46	L, N	IV/PO steroids, CyA		Death	Death	NR	Concurrent	
Collister D [22]	2017	Canada	53	M	HT, DLP, Lumbar surgery, Chronic pain syndrome	0	0	1.7	0.2	1	1	MPO 167 RU/mL; PR3 8 RU/mL	NR	-	NR	NR	0.12	Skin	IV/PO steroids	1.69	0.16	NR	Concurrent	Cocaine use	
Collister D [22]	2017	Canada	35	M	None	0	0	1.7	0.59	1	1	MPO >200 RU/mL; PR3 24 RU/mL	NR	NR	NR	NR	0.13	ENT, L	PO steroids, AZA, IV CPA	1.37	0.06	NR	Concurrent	Cocaine use	
Collister D [22]	2017	Canada	34	M	HT, Severe obesity	0	0	0.8	NR	0	1	MPO 91 RU/mL; PR3 74 RU/mL	NR	NR	NR	NR	0	Skin	PO steroids, AZA, PO CPA, TAC	0.64	0.15	NR	Concurrent	Cocaine use	
Sekine S [23]	2002	Japan	81	F	RA	0	1(RA)	1.25	5.95	0	1	MPO 166 EU	NR	NR	NR	NR	0	L	PO steroids	1.5	0.5	NR	Concurrent		
Meisels IS [24]	1992	USA	50	M	RA, Idiopathic thrombocytopenic purpura	0	1(RA)	3.7	>3.5	1	1	MPO; PR3	NR	NR	NR	NR	0.5	None	IV/PO steroids, PE	0.8	Negative	NR	Concurrent		
Etter C [25]	2011	Switzerland	52	F	NR	0	0	4.84	1.7	1	1	MPO 1700 EU	NR	NR	NR	NR	0.556	L	IV/PO steroids, AZA, PE	1.54	0.23	NR	Concurrent		
Kakita T [26]	2013	Japan	21	F	HTH, ID, Congenital diaphragmatic hernia, Hypoxic ischemic encephalopathy	0	0	0.43	6.4	0	1	MPO 79 EU	NR	NR	NR	NR	0.34	None	IV/PO steroids, AZA, IV CPA, CyA stop MMI	NA	NR	NR	Concurrent	MMI-induced	
Tominaga K [27]	2018	Japan	52	M	None	0	0	1.99	15.9	1	1	MPO 19.4 EU	-	+	NR	IgG4 positive	0.46	L	NR		NR	NR	NR	ANCA preceding	
Tominaga K [27]	2018	Japan	63	F	Relapsing polychondritis	0	1(Relapsing polychondritis)	0.73	1.6	1	1	MPO 25.6 EU	-	+	NR	IgG4 negative	0.11	None	NR		NR	NR	NR	ANCA preceding	
Jiang S [28]	2022	China	25	M	NA	NR	NR	1.13	NR	1	1	NR	NR	NR	NR	NR	0.3	L, Skin	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	61	F	NA	NR	NR	8	8	NR	1	c-ANCA; MPO	NR	-	NR	NR	0.22	NA	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	63	F	NA	NR	NR	4.1	NA	NR	1	c-ANCA	NR	-	NR	NR	0.2	NA	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	47	M	NA	NR	NR	2.1	0.31	NR	1	p-ANCA 1:160; MPO 58.5	NR	-	NR	NR	0.17	NA	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	81	M	NA	NR	NR	3.7	4.98	NR	1	p-ANCA	NR	-	NR	NR	0.56	NA	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	54	M	NA	NR	NR	1.8	1	NR	1	type unknown	NR	-	NR	NR	0.08	NA	NA		NA	NA	NR	ANCA preceding	
Zuo Y [29]	2021	USA	58	M	NA	NR	NR	3.5	NA	NR	1	p-ANCA	NR	+	NR	NR	0.25	NA	IV CPA, AZA		around 2.0	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	79	F	NA	NR	NR	3.7	4.5	NR	1	PR3	NR	+	NR	NR	0.31	NA	NA		NA	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	88	M	MGUS	NR	NR	4.8	NA	NR	NA	p-ANCA	NR	-	NR	NR	0.2	NA	PO steroids, PO CPA		2.7	NA	NR	Concurrent	
Zuo Y [29]	2021	USA	60	M	NA	NR	NR	6.6	NA	NR	NA	type unknown	NR	+	NR	NR	0.07	NA	NA		NA	NA	NR	Concurrent	
Watanabe S [30]	2007	Japan	79	F	None	0	0	0.6	5.3	0	1	MPO 425 EU	NR	NR	NR	IgG4 dominant	0.09	None	IV/PO steroids		0-1.0(stable)	Negative	NR	Concurrent	
P'ng CH [31]	2017	Australia	55	M	ILD, T2DM, HT,DLP, BPH	0	0	7.61	2.57	1	1	MPO >100 U/mL	-	NR	NR	NR	0.63	L	IV/PO steroids, CPA, PE		3.71	NA	NR	Concurrent	
Fang W [32]	2025	China	50	F	HT, hypothyroidism	0	0	0.87	1.59	0	1	p-ANCA; MPO	NR	-	NR	NR	0.36	ENT, L	IV/PO steroids, CPA, MMF		0.71	0.03	NR	Concurrent	
Tse WY [33]	1997	UK	30	M	None	0	0	1.36	1.5	NR	1	c-ANCA 1:100	NR	NR	NR	NR	0.5	Skin	steroids, CPA		1.35	NA	NR	Concurrent	
Tse WY [33]	1997	UK	64	M	T2DM	0	0	5.76	10	NR	1	p-ANCA 1:100	NR	NR	NR	NR	0.23	None	None		RRT	NA	NR	Concurrent	
Tse WY [33]	1997	UK	65	M	None	0	0	1.74	2.4	NR	1	p-ANCA 1:100	NR	NR	NR	NR	0.28	None	steroids, CPA		1.47	NA	NR	Concurrent	
Tse WY [33]	1997	UK	70	M	None	0	0	13.8	NA	NR	0	c-ANCA 1:25	NR	NR	NR	NR	0.73	ENT, Skin	steroids, AZA, CPA, PE		2.29	NA	NR	Concurrent	
Gao M [34]	2021	China	62	M	Pulmonary tuberculosis	0	0	0.86	7.09	0	1	p-ANCA; MPO 253.96 U/mL	-	NR	NR	NR	0	None	IV/PO steroids, MZR		0.69	0.13	NR	Concurrent	
Yu F [35]	2007	China	21	F	HTH	NR	NR	1.1	1.86	NR	1	MPO; human leukocyte elastase; cathepsin G	NR	NR	NR	NR	0.04	Skin	IV/PO steroids, CPA, PE, stop PTU		CR	CR	a	Concurrent	PTU-induced
Yu F [35]	2007	China	43	F	HTH	NR	NR	3.2	1.1	NR	1	MPO	NR	NR	NR	NR	0.04	E, L	IV/PO steroids, CPA, stop PTU		PR	PR	a	Concurrent	PTU-induced
Chen Y [36]	2014	China	43	F	HTH	0	0	0.71	1.25	NR	1	MPO 174 RU/ml; p-ANCA 1:160	NR	NR	NR	NR	0	None	PO steroids, MMF, stop PTU		0.6	0.18	b	Concurrent	PTU-induced
Chen Y [36]	2014	China	39	F	HTH	0	0	1.01	5.97	NR	1	PR3 264 RU/ml; p-ANCA 1:80	NR	NR	NR	NR	0	E, Skin	PO steroids, AZA, MMF, stop PTU		0.58	0.1	b	Concurrent	PTU-induced
Gaber L.W. [37]	1993	USA	64	M	None	0	0	1.6	1.6	1	1	c-ANCA >1:320	NR	NR	NR	IgG4 positive	0.11	E, ENT, L	PO steroids, PO CPA		1.6	Negative	NR	Concurrent	
Surindran S [38]	2012	USA	56	M	HT	0	0	13.4	14	1	1	p-ANCA 1:160; MPO 31.5 U/mL	+	NR	NR	NR	1	None	PO steroids, CPA, PE		2.3	4	NR	Concurrent	
Mathieson PW [39]	1996	UK	53	M	RA	0	1(RA)	4.05	2.7	1	1	p-ANCA	NR	NR	NR	NR	0.3	E, Skin	IV/PO steroids, AZA, IV/PO CPA		1.37	NR	NR	Concurrent	D-penicillamine-induced
Iwafuchi Y [40]	2013	Japan	71	M	HT	0	0	14.5	9	1	1	MPO 68.6 U/mL	NR	NR	NR	IgG4 positive	0.875	None	IV/PO steroids		RRT	RRT	NR	Concurrent	
Rajesh C [41]	2025	India	58	M	None	0	0	3.4	3.9	1	1	MPO >200 EU	NR	NR	NR	NR	0.73	None	IV/PO steroids, CPA, PE		2	NR	NR	Concurrent	
Rajesh C [41]	2025	India	51	F	None	0	0	1.4	7.8	1	1	MPO >200 EU	NR	-	NR	NR	0.8	None	IV/PO steroids, RTX		2.5	NR	NR	Concurrent	
Zhu Y [42]	2019	China	50	M	Eczema	0	0	0.87	6.4	0	1	PR3 1:10	+	NR	NR	IgG4 positive	0	ENT, L, Skin, BM	PO steroids, IV CPA		0.79	0.1	NR	Concurrent	
Balafa O [43]	2015	Greece	58	M	CHD	0	0	7.39	8	1	1	p-ANCA 1:160	NR	NR	NR	NR	0.42	None	IV/PO steroids, IV CPA, PE		1.51	1.73	NR	Concurrent	

Author	Year	Country	Age	Sex	Comorbidity	Malignancy	Autoimmune diseases other than ANCA(0/1)	Cre	PU	RPGN(0/1)	Hematuria	ANCA	PLA2R serum	PLA2R kidney	TSHD7A	IgG subclass	Crescent	Extrarenal lesions	Treatment	Outcome Cre	Outcome UP	Remission	Timing	Trigger/etiology
Ghandour M [44]	2022	USA	53	M	T2DM, HT	0	0	8.04	19.2	1	1	MPO	NR	-	kidney -	NR	0.5	ENT, L, N	IV/PO steroids, IV CPA	RRT	NA	NR	Concurrent	
Yoshida H [45]	2021	Japan	78	M	CVA, GU, HT, hyperuricemia, insomnia	0	0	1.41	1.66	1	1	MPO	NR	NR	NR	NR	0.62	L	IV/PO steroids, IV CPA	1.45	NA	NR	MN preceding	
Morimoto C [46]	2026	Japan	41	M	hyperuricemia	0	0	1.73	7.08	1	1	MPO 1340 U/ml	NR	+	NR	IgG4 dominant	0.55	None	IV/PO steroids, Avacopan, RTX	1.3	CR	NR	Concurrent	
De Souza LM [47]	2021	USA	62	M	None	0	0	NR	0.72	1	NR	c-ANCA 1:320; PR3 437.4	NR	NR	NR	NR	NR	None	NR	RRT	RRT	NR	MN preceding	
Angel Korman A [48]	2022	Israel	34	M	None	0	0	2.9	0.63	1	1	MPO 97 IU/ml	NR	-	NR	IgG4 not dominant	9%%	ENT	None	1.2	0.75	NR	Concurrent	G-CSF induced
Crowe AV [49]	1995	UK	68	M	None	0	0	13	2.2	1	NR	c-ANCA	NR	NR	NR	NR	NR	L	IV/PO steroids, AZA, IV CPA	RRT	RRT	NR	Concurrent	
Yedidag A [50]	1997	USA	61	M	Esophageal squamous cell carcinoma	1	0	normal range	NR	0	NR	p-ANCA	NR	NR	NR	NR	0	L	steroids	NR	NR	NR	Concurrent	
Rabie M [51]	2025	USA	68	F	HT, lupus nephritis features	0	1(lupus nephritis features)	NR	NR	1	NR	MPO 234; PR3 41.2	NR	NR	NR	NR	NR	None	Stroids, hydroxychloroquine, RTX	NR	NR	NR	Concurrent	hydralazine-induced
Chang A [52]	2007	USA	49	F	HT, SLE	0	1	2.8	4.47	1	1	p-ANCA; MPO 22 U/mL	NR	NR	NR	NR	0.63	None	IV steroids, IV CPA, MMF	1	1	NR	Concurrent	
Roca-Argente L [53]	2015	Spain	49	M	HCV	0	0	7.09	1.35	1	1	p-ANCA 1:1,280; MPO 56.4 U/mL; PR3 47.10 U/mL	NR	NR	NR	NR	+	Skin	IV/PO steroids	1.98	<1	NR	Concurrent	Cocaine use
Zhou GY [54]	2012	China	64	M	None	0	0	3.97	5.4	1	1	MPO 145 U/ml	NR	NR	NR	NR	0.47	None	IV/PO steroids, CPA	2.07	1.9	NR	Concurrent	
Nasr SH [55]	2009	USA	57	F	None	0	0	2.5	NA	1	NR	p-ANCA; MPO	NR	NR	NR	NR	0.29	L	PO steroids, IV CPA, MMF	RRT	NA	NR	Concurrent	
Nasr SH [55]	2009	USA	65	M	Polymyositis	0	1(Polymyositis)	2.2	5.8	1	NR	p-ANCA	NR	NR	NR	NR	0.05	None	PO steroids, PO CPA	1.8	Negative	NR	Concurrent	
Nasr SH [55]	2009	USA	37	F	None	0	0	3.5	5.5	1	NR	p-ANCA; MPO	NR	NR	NR	NR	0.16	None	IV/PO steroids, IV CPA	0.9	0.77	NR	Concurrent	
Nasr SH [55]	2009	USA	39	F	None	0	0	1.3	6.8	1	NR	c-ANCA; PR3	NR	NR	NR	NR	0.15	E	PO steroids, PO CPA	2.1	4.2	NR	Concurrent	
Nasr SH [55]	2009	USA	47	M	Gout	0	0	8.6	14	1	NR	p-ANCA; MPO	NR	NR	NR	NR	0.83	None	PO steroids, IV CPA	RRT	NA	NR	Concurrent	
Nasr SH [55]	2009	USA	71	M	None	0	0	3	6.6	1	NR	p-ANCA; MPO	NR	NR	NR	NR	0.59	None	PO steroids, PO CPA	2.8	0.817	NR	Concurrent	
Nasr SH [55]	2009	USA	50	M	None	0	0	0.9	0.8	0	NR	c-ANCA; PR3	NR	NR	NR	NR	0.15	L	PO steroids, AZA, PO CPA	0.8	Negative	NR	Concurrent	
Nasr SH [55]	2009	USA	62	F	Polymyositis, Mixed connective tissue disease	0	1(Polymyositis, MCTD)	4.1	16	1	NR	PR3; MPO	NR	NR	NR	NR	0.3	None	IV/PO steroids, IV CPA	RRT	NA	NR	Concurrent	
Nasr SH [55]	2009	USA	78	M	Prostate cancer	1	0	4	NA	1	NR	c-ANCA	NR	NR	NR	NR	0.33	None	PO steroids, IV CPA	2.1	0.701	NR	Concurrent	
Nasr SH [55]	2009	USA	79	F	None	0	0	8.9	NA	1	NR	ANCA	NR	NR	NR	NR	0.5	None	None	Died	NA	NR	Concurrent	
Nasr SH [55]	2009	USA	59	M	None	0	0	6	3.5	1	NR	c-ANCA; MPO	NR	NR	NR	NR	0.41	None	PO steroids, IV CPA	RRT	NA	NR	Concurrent	
Nasr SH [55]	2009	USA	69	M	Prostate cancer	1	0	5.4	1.9	1	NR	p-ANCA	NR	NR	NR	NR	0.19	None	PO steroids, IV CPA	3.5	1.1	NR	Concurrent	
Nasr SH [55]	2009	USA	51	M	None	0	0	8.7	5.8	1	NR	p-ANCA	NR	NR	NR	NR	0.24	None	IV/PO steroids, CPA	RRT	RRT	NR	Concurrent	
Nasr SH [55]	2009	USA	58	F	None	0	0	3.1	5	1	NR	c-ANCA; PR3	NR	NR	NR	NR	0.23	None	IV/PO steroids, CPA	0.8	1.2	NR	MN preceding	
Nikolopoulou A [56]	2019	UK	70	M	NA	0	0	10	3.35	1	1	MPO >134 u/ml	NR	NR	NR	NR	0.25	L	steroids, CPA	RRT	NA	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	73	M	NA	0	0	3.95	37.8	1	1	MPO 86 u/ml	NR	NR	NR	NR	0.07	None	steroids, CPA, PE	RRT	NA	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	66	M	NA	0	0	6.33	0.78	1	1	MPO >134 u/ml	NR	NR	NR	NR	0.28	None	steroids, CPA, RTX	2.53	0.08	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	34	F	NA	0	0	0.97	18.7	1	1	MPO 19 u/ml	NR	NR	NR	NR	0.08	None	steroids, MMF	0.9	0.87	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	74	F	NA	0	0	2.45	9.3	1	1	MPO 78 u/ml	NR	NR	NR	NR	0.29	L	steroids, CPA, RTX	1.06	0.89	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	73	F	NA	0	0	2.01	4.94	1	1	MPO 74 u/ml	NR	NR	NR	NR	0.06	None	steroids, MMF	1.87	0.44	NR	Concurrent	
Nikolopoulou A [56]	2019	UK	64	M	NA	0	0	2.98	0.99	1	1	PR3 544 u/ml	NR	NR	NR	NR	0.33	L	steroids, CPA, RTX	0.94	0.55	NR	Concurrent	
Granata A [57]	2011	Italy	67	M	HT	0	0	NR	4.8	1	1	p-ANCA 1:40	NR	NR	NR	NR	0.27	None	IV/PO steroids, CPA	1.6	1.2	NR	Concurrent	
Suwabe T [58]	2005	Japan	68	F	None	0	0	3	6.97	1	1	MPO 204IU/ml	NR	NR	NR	IgG4 dominant	0.69	None	PO steroids, IV CPA	1.8	0.5	NR	Concurrent	
Erez D [59]	2022	Israel	67	F	HT	0	1(SLE)	1.15	1.3	1	0	p-ANCA 1:40	NR	NR	NR	NR	0.5	None	IV/PO steroids, CPA, AZA	0.9	0.15	NR	Concurrent	
Dwyer K.M [60]	2001	Australia	67	M	HT	0	0	0.69	7.16	1	1	p-ANCA 1:160; MPO >100	NR	NR	NR	NR	+	None	PO steroids, AZA	RRT	NR	NR	Concurrent	
Dwyer K.M [60]	2001	Australia	69	M	None	0	0	0.13	0.56	1	1	p-ANCA; MPO 78 U/ml	NR	NR	NR	NR	0.23	None	PO steroids, PO CPA	0.11	NR	NR	Concurrent	
Ridder RM [61]	2005	Germany	12	F	ulcerative colitis	0	1(ulcerative colitis)	0.41	1	0	1	PR3 8 U/l; p-ANCA 1:1,280	NR	NR	NR	NR	0	None	PO steroids, AZA	NR	NR	NR	Concurrent	
Ozdemir N [62]	2006	Turkey	10	M	atopic dermatitis, short stature, spondylo-epiphyseal dysplasia,HT	0	0	NR	3.41	0	NR	p-ANCA	NR	NR	NR	NR	0	None	PO steroids	NR	3.41	NR	Concurrent	
Ram R [63]	2014	India	37	M	None	0	0	1.9	8.7	1	1	p-ANCA; MPO	NR	NR	NR	NR	0.33	ENT, L, N, Skin	IV/PO steroids, IV CPA	1.2	0.2	NR	Concurrent	
Moinuddin I [64]	2016	USA	50	F	Asthma, HT, RA	0	1(RA)	2.2	1.6	1	1	p-ANCA; MPO 134 U/ml	-	-	NR	IgG4 negative	+	Skin	IV/PO steroids, AZA, PO CPA	0.8	0.11	NR	Concurrent	Cocaine use
Kanodia K [65]	2014	India	48	M	HT	0	0	9.13	NA	1	1	MPO 220 U/ml	NR	NR	NR	NR	0.36	None	IV/PO steroids, IV CPA	RRT	NA	NR	Concurrent	
Yoshida S [66]	2021	Japan	73	F	HT, DLP	0	0	0.91	2.6	1	1	PR3 725 U/mL	-	NR	NR	IgG4 positive	0.04	E, L	PO steroids, RTX	0.5-1.0	0.15	NR	Concurrent	
Matsumoto K [8]	2009	Japan	NA	F	HT, DLP	0	0	0.6	1.6	0	1	MPO >640 U/ml	NR	NR	NR	IgG4 dominant	0.3	None	IV/PO steroids, PO CPA	around 1	Negative	NR	Concurrent	
Tsuruoka K [67]	2008	Japan	72	F	HTH, T2DM, HT	0	0	3.62	2.2	1	1	MPO 68 EU	NR	NR	NR	NR	0.12	None	IV/PO steroids, stop MMI	RRT	NA	NR	Concurrent	MMI-induced
Quarenghi MI [68]	1998	Italy	52	M	Psoriatic arthritis, psoriasis	0	1(psoriasis)	1.03	5.2	1	1	p-ANCA; MPO 570 UI/ml	NR	NR	NR	NR	+	None	IV/PO steroids, CPA	1.36	NR	NR	Concurrent	Gold-salt-induced
Kanahara K [69]	1997	Japan	47	F	None	0	0	1.1	4.9	1	1	MPO 297 EU	NR	NR	NR	NR	+	L	steroids, AZA	NR	NR	NR	MN preceding	
Manabe S [70]	2017	Japan	19	M	None	0	0	1.2	3	1	1	MPO 230 IU/l	NR	-	NR	IgG4 not dominant	0.14	ENT, L, N, RetP	IV/PO steroids, IV CPA	RRT	NR	NR	Concurrent	
Tominaga K [9]	2024	Japan	63	F	NR	0	0	NA	2.65	NR	NR	MPO 25.6 U/ml	NR	NR	NR	NR	0.11	NR	PO steroids	NR	0.13	NR	ANCA preceding	

Author	Year	Country	Age	Sex	Comorbidity		Malignancy	Autoimmune diseases other than ANCA(0/1)	Cre	PU	RPGN(0/1)	Hematuria	ANCA		PLA2R serum	PLA2R kidney	TSHD7A	IgG subclass		Crescent	Extrarenal lesions	Treatment	Outcome Cre	Outcome UP	Remission	Timing	Trigger/etiology
Tominaga K [9]	2024	Japan	77	F	NR		0	0	NA	3.91	NR	NR	MPO 21 U/ml		NR	NR	NR	NR		0.54	NR	PO steroids	NR	1.81	NR	Concurrent	
Tominaga K [9]	2024	Japan	64	F	NR		0	0	NA	2.35	NR	NR	MPO 64.3 U/ml		NR	NR	NR	NR		0.5	NR	IV/PO steroids	NR	1.29	NR	Concurrent	
Tominaga K [9]	2024	Japan	73	M	NR		0	0	NA	3.04	NR	NR	MPO 20.1 U/ml		NR	NR	NR	NR		0.37	NR	IV/PO steroids	NR	0.28	NR	Concurrent	
Tominaga K [9]	2024	Japan	60	F	NR		0	0	NA	1.58	NR	NR	MPO 80.5 U/ml		NR	NR	NR	NR		0.58	NR	IV/PO steroids, AZA, CPA	NR	0.68	NR	Concurrent	
Tominaga K [9]	2024	Japan	34	F	NR		0	0	NA	6.8	NR	NR	MPO 245 U/ml		NR	NR	NR	NR		0.63	NR	IV/PO steroids, MMF	NR	1.26	NR	Concurrent	
Tominaga K [9]	2024	Japan	52	M	NR		0	0	NA	9.42	NR	NR	MPO 19.4 U/ml		NR	NR	NR	NR		0.61	NR	PO steroids, AZA, MZR	NR	1.74	NR	ANCA preceding	
Carrara C [71]	2016	Italy	34	F	None		0	0	4.2	2.4	1	1	p-ANCA; MPO > 311.4 U		NR	-	NR	NR		0.33	Skin	IV/PO steroids, PE, RTX	1.6	NR	NR	Concurrent	Cocaine use
Bhatnagar M [72]	2023	USA	52	F	HT		0	1(SLE)	1.66	NR	1	1	PR3 24.1 units/mL; c-ANCA 1:640; MPO 38.9 units/mL		NR	NR	NR	NR		0.52	L	steroids, CPA, PE	RRT	NR	NR	Concurrent	hydralazine-induced
Burkhart R [73]	2015	USA	79	M	HT, DLP, hypothyroidism, gout, fatty liver, ILD, mitral stenosis, pulmonary HT		0	1(SLE)	9.2	3	1	1	p-ANCA 1:640; MPO 657 AU/ml		NR	-	NR	IgG4 negative		0.38	L	IV/PO steroids, PE, RTX	RRT	NR	NR	MN preceding	
Chen YX [74]	2007	China	43	F	HTH		0	NR	0.59	10.6	NR	1	MPO 1:320, 68.35 RU/ml		NR	NR	NR	NR		0	None	PO steroids, stop PTU	Remission	Remission	c	Concurrent	PTU-induced
Nishio S [75]	2001	Japan	40	F	HTH		0	0	1.8	NR	1	1	MPO 563 EU		NR	NR	NR	NR		0	None	PO steroids, CPA, stop PTU	NR	NR	NR	MN preceding	PTU-induced
Yamazaki T [76]	2023	Japan	78	M	SLE		0	1(SLE)	4.25	2	1	1	MPO 9.7 U/ml		-	-	NR	IgG4 positive		0.57	None	IV/PO steroids, PE	RRT	RRT	NR	Concurrent	
Bao D [77]	2025	China	74	M	RA, COPD		0	1(RA)	11.87	1.51	1	1	MPO 169.8 RU/mL		+	NR	NR	NR		NR	None	IV/PO steroids, CPA	RRT	RRT	NR	MN preceding	
Gupta A [78]	2012	Canada	67	F	T2DM, HT		0	1(SLE)	2.32	1.18	1	1	p-ANCA; MPO 100 IU/ml		-	NR	NR	NR		0.5	None	IV/PO steroids, CPA	1.18	0.69	NR	Concurrent	
Golas VL [79]	2020	USA	58	M	NR		NR	NR	3.12	NR	1	NR	p-ANCA		NR	NR	NR	NR		0.10	NR	NR	4.4	NR	NR	Concurrent	
Golas VL [79]	2020	USA	79	M	NR		NR	NR	7.55	NR	1	NR	ANCA; MPO		NR	NR	NR	NR		0.40	NR	NR	RRT	NR	NR	Concurrent	

- **Remission** codes refer to author-reported remission definitions at the study level, not to whether an individual case achieved remission.
- **a**: Yu F 2007. Complete remission: **(1)** normalization of renal function if renal function abnormality existed before and **(2)** disappearance of hematuria, proteinuria, and extrarenal manifestations of systemic vasculitis. Partial remission: **(1)** stabilization or improvement of renal function if renal function abnormality existed before or dialysis independent if dialysis dependent before, and/or **(2)** resolution of hematuria and proteinuria and/or resolution of extrarenal manifestations of systemic vasculitis.
- **b**: Chen Y 2014. Complete remission: normal renal function and normal urine analysis, with no extrarenal manifestations of systemic vasculitis. Partial remission: stabilization or improvement in renal function if renal dysfunction existed, or independence from dialysis if the patient had been dialysis dependent at the beginning of the treatment, with or without resolution of hematuria and proteinuria and extrarenal manifestations of systemic vasculitis.
- **c**: Chen YX 2007. Remission was defined as stabilization or improvement of renal function, resolution of hematuria, and resolution of extrarenal manifestations of systemic vasculitis. Persistence of proteinuria was not considered indicative of persistence of disease activity.
- **NR**:: remission definition not reported.

Values at diagnosis are presented for Cre (in mg/dL) and PU (in g/gCr or g/day). Malignancy was coded as present (1) or absent (0). Autoimmune diseases other than ANCA were coded as present (1) or absent (0); when present, the specific disease is shown in parentheses when available. RPGN was coded as present (1) when the clinical course described in the original report was judged to meet a rapidly progressive decline in kidney function, and absent (0) otherwise. Hematuria is indicated as present (1) or absent (0). ANCA results are shown as reported in the original articles; assay type, units, and positivity thresholds were not standardized across reports. For PLA2R serum, PLA2R kidney, and THSD7A, + and - indicate positive and negative results, respectively, and NR indicates not reported. PLA2R kidney refers to tissue staining. Crescent formation is indicated as present (1), absent (0), or by the percentage of glomeruli with crescents if available. Outcome Cre and Outcome UP represent the latest reported post-treatment values. When numeric values were unavailable, author-reported outcomes such as RRT, remission, or death were retained. Timing was categorized as Concurrent, MN preceding, or ANCA preceding; Concurrent indicates diagnoses made within 6 months of each other, whereas MN preceding and ANCA preceding indicate intervals of >6 months. Data on non-specific systemic symptoms, such as general malaise, are not included in this table.

Abbreviations: AZA; Azathioprine, BM; Bone marrow, BPH: benign prostatic hypertrophy, BPI; bactericidal permeability increasing, CHD; Coronary heart disease, COPD; Chronic obstructive pulmonary disease, CPA; Cyclophosphamide, CR; complete remission, Cre; Creatinine, CVA; Cerebrovascular accident, CyA; Ciclosporin, DLP; Dyslipidemia, E; Eyes, ENT; Ear and/or nose and/or throat, G-CSF; Granulocyte colony-stimulating factor, GI; Gastrointestinal, GU; Gastric ulcer, HCV; Hepatitis C Virus, HT; Hypertension, HTH; Hyperthyroidism, ID; Intellectual disability, ILD; Interstitial lung disease, IV; Intravenous, L; Lungs, MGUS; Monoclonal gammopathy of undetermined significance, MMF; Mycophenolate mofetil, MMI; Methimazole, MZR; Mizoribine, NA; Not available, N; Nerves, PE; Plasma exchange, PLA2R; phospholipase A2 receptor, PO; By mouth, PR; partial remission, PTU; Propylthiouracil, PU; Proteinuria, RA; Rheumatoid arthritis, RetP; Retroperitoneum, RRT; Renal replacement therapy, RTX; Rituximab, SSS; Sick sinus syndrome, T2DM; Type 2 diabetes, TAC; Tacrolimus, UK; United Kingdom, USA; United States of America.

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