

Table S3. Clinical characteristics of MDS with SIAMS in each included studies

First author, year	MDS-SIAMS (n)	MDS subtype n (%)	IPSS n (%)	IPSS-R n (%)	Karyotype n (%)
Yojiro A,2021	12	MDS-RCUD 3 (25.0) MDS-RCMD 4 (33.3) MDS-RAEB1 2 (16.7) MDS-RAEB2 1 (8.3)	NR	NR	NR
Abdulla W, 2021	62	MDS-U 1 (8.3) MDS-RARS 1 (1.6) MDS-RAEB 20 (32.3) Isolated del(5q) 1(1.6) Others 18 (29.0)	NR	NR	Favorable 27 (50.9) Intermediate 10 (18.9) Poor 8 (15.1) Very poor 8 (15.1)
Anne LR, 2020	70	MDS-MLD 23(33) MDS-EB-1 9(13) MDS-EB-2 7(10) MDS-RS 4(6) MDS-RS-SLD 1(1) MDS-RS-MLD 1(1) MDS-U 2(3) Isolated del(5q) 3(4)	Low 18(33) Intermediate-1 22(41) Intermediate-2 6(11) High 3(6)	NR	NR
Julie S, 2019	89	MDS-SLD 13 (14.6) MDS-MLD 21 (23.6) MDS-EB-1 17 (19.1) MDS-EB-2 6 (6.7) CMML-1 19 (21.3) CMML-2 1 (1.1) MDS-RS-SLD 6 (6.7) MDS-RS-MLD 2 (2.2) MDS-U 3 (3.4) del (5q) 1 (1.1)	Low 28 (40) Intermediate-1 28 (40) Intermediate-2 11 (15.7) High 3 (4.3)	Very low 7 (10) Low 39 (55.7) Intermediate 12 (17.1) High 7 (10) Very high 5 (7.1)	Very favorable 2 (2.7) Favorable 59 (78.7) Intermediate 7 (9.3) Poor 6 (8) Very poor 1 (1.3)
B. Kipfer, 2018	30	RARS 1 (3.3) RCMD 6 (20) RAEB-1 7 (23.3) RAEB-2 6 (20) CMML1/2 8 (26.7) Not classified 2 (6.7)	Low 3 (10) Intermediate-1 13 (43.3) Intermediate-2 8 (26.7) High 3 (10) Unknown 3 (10)	Very low 2 (6.7) Low 5 (16.7) Intermediate 9 (30) High 6 (20) Very high 7 (23.3) Unknow 1 (3.3)	NR
Julia M, 2018	68	MDS-SLD 8 (12) MDS-MLD 24 (35) MDS-RS 10 (15) MDS-EB-1 9 (13) MDS-EB-2 5 (7) CMML-0 5 (7) CMML-1 2 (3) CMML-2 1 (2) Isolated del(5q) 4 (6)	NR	Very low 23 (34) Low 27 (40) Intermediate 7 (10) High 6 (9) Very high 5 (7)	Very favorable 4 (6) Favorable 46 (68) Intermediate 8 (12) Poor 3 (4) Very Poor 7 (10)
Praveen M,2017	52	NR	NR	NR	NR

JM Gómez , 2017	92	RCUD 11(12) RARS 0(0) RCMD 43(53) RAEB-1 11(12) RAEB-2 6(6) Isolated del 5q 6(6) CMML-1 9(10) CMML-2 1(1)	NR	NR	NR
Rami S, 2016	391	RA 53 (14) RARS 32 (8) RCMD 131 (34) Isolated del(5q) 12 (3) RAEB-1 60 (15) RAEB-2 56 (14) AML 8 (2) CMML 8 (2) MDS-U 13 (3) MDS/MPN-U 18 (5)	Low 85 (23) Intermediate-1 186 (50) Intermediate-2 83 (22) High 22 (5)	Very low 68 (19) Low 127 (35) Intermediate 77 (21) High 51 (14) Very high 41 (11)	Favorable 260 (66) Intermediate 67 (17) Poor 59 (15) Missing 5 (1)
Arsene M, 2016	123	RCUD 11 (9) RARS 1 (1) RAEB-1 18 (15) RAEB-2 10 (8) CMML-1 19 (16) CMML-2 5 (4) RCMD 31 (26) MDS-U 11 (9) Del(5q) 6 (5)	Low 18 (23) Intermediate-1 39 (49) Intermediate-2 15 (19) High 7 (9)	NR	Favorable 62 (75) Intermediate 8 (10) Poor 13 (16)
Y Takeoka, 2014	13	RCUD 4 (30.7) RCMD 5 (38.5) RAEB-1 2 (15.4) MDS-U 2 (15.4)	NR	Very low 0 (0) Low 3 (23.1) Intermediate 3 (23.1) High 2 (15.4) Very high 5 (38.5)	NR
Li B, 2012	16	RA 3 (18.75) RCMD 5 (31.25) RAEB-1 4 (25) RAEB-2 3 (18.75) MDS-U 1 (6.25)	Low 3 (20) Intermediate-1 7 (46.67) Intermediate-2 4 (26.67) High 1 (6.67)	NR	Favorable 8 (53.3) Intermediate 6 (40) Poor 1 (6.7)
Ki-Jo KIM ,2012	27	NR	NR	NR	NR
A. DE Hollanda, 2011	46	RA/RARS 21 (45.6) MDS with del5q31 3 (6.5) RCMD/RS 8 (17) RAEB-1 10 (21.7) RAEB-2 3 (6.5)	Low 14 (30.4) Intermediate-1/2 (28.2) High 19 (41.3)	13 NR	NR
Dragmir M,2006	32	NR	NR	NR	NR
F. Bouali, 2005	20	RCUD/RCMD 12 (60) RA 1 (5) RAEB 7 (35)	NR	NR	NR

S. Giannouli, 2004	13	RA 6 (46.2)	Low 4 (31) Intermediate-1/2 3 (23) High 6 (46)	NR	NR
		RARS 1 (7.7)			
		RAEB 2 (15.4)			
		RAEB-T 2 (15.4)			
		CMML 2 (15.4)			
Zhao S, 2002	19	RA 15 (78.9)	NR	NR	NR
		RAS 1 (5.3)			
		RAEB 1 (5.3)			
		RAEB-T 1 (5.3)			
		CMML 1 (5.3)			

NR, not reported; MLD, multilineage dysplasia; RS-MLD, ring sideroblasts with multilineage dysplasia; SLD, Single lineage dysplasia; RS-SLD, Ring sideroblasts with single lineage dysplasia; RA, refractory anemia; RARS, refractory anemia with excess blasts; RCMD, refractory anemia with multilineage dysplasia; RAEB1, refractory anemia with excess blasts-1; RAEB2, refractory anemia with excess blasts-2; U, MDS unclassifiable; 5q-, MDS associated with isolated del (5q); CMML, chronic myelomonocytic leukemia; RAEB-T, refractory anemia with excess blasts in transformation; CML, chronic myeloid leukemia; ACML, atypical chronic myeloid leukemia.

Table S4. SAIMs manifestations of MDS-SIAM patients in each include studies

First author, year	MDS-SIAMs(n)	SAIMs manifestations n (%)
Yojiro A, 2021	12	Others 9 (75.0) Psoriasis vulgaris 1 (8.3) Behçet disease 1 (8.3) Systemic sclerosis 1 (8.3)
Abdulla W, 2021	62	Undifferentiated Autoinflammatory Disease 52 (83.9) Polymyalgia rheumatica 5 (9.6) Giant cell arteritis 2 (3.2) Ulcerative colitis 2 (3.2) Behçet disease 1 (1.6)
Anne LR, 2020	70	Giant cell arteritis 24(34) Polyarteritis nodosa 6(9) Behçet disease 4(6) Behçet like disease 7(10) Unclassified vasculitis 17(24) ANCA-associated vasculitis7(10) IgA vasculitis 2(3) Cryoglobulinemic vasculitis 3(4)
Julie S, 2019	89	Polyarthritits 22(25) Immune cytopenia/ coagulation disorder 15(17) Vasculitis 12(12) Cutaneous manifestations 11(12) Relapsing polychondritis 6(7) Others 24(27)
B. Kipfer, 2018	30	Musculoskeletal/connective tissue 11(26.8) Vascular 8(19.5) Systemic autoinflammation 7(17) Skin 5(12.2) Gastrointestinal 4(9.8) Others 6(14.6)
Julia M, 2018	68	Hypothyroidism 11(26.2) Rheumatoid arthritis 9(21.4) Polymyalgia rheumatica 6(14.2) Pernicious anemia 4(9.5) Autoimmune vasculitis 3(7.1) Inflammatory bowel disease 2(4.8) Sjogren syndrome 1(2.4) Systemic lupus erythematosus 1(2.4) Scleroderma 1(2.4) Hemolytic anemia 1(2.4)

		Psoriasis 1(2.4) Not filiated 2(4.8)
Praveen M, 2017	52	Autoimmune hemolytic anemia 11(19.64) Seronegative arthritis 9(16.07) Rheumatoid arthritis 8(14.29) Immune thrombocytopenic purpura 4(7.14) Psoriasis 3(5.36) Autoimmune hepatitis 3(5.36) Vitiligo 3(5.36) Vasculitis 3(5.36) Antral 3(5.36) Gastritis 3(5.36) Autoimmune hypothyroidism 2(3.57) Aplastic anemia 2(3.75) Central retinal vein occlusion 1(1.79) Antiphospholipid antibody syndrome 1(1.79) Uveitis 1(1.79) Retinitis pigmentosa 1(1.79) Cortical vein thrombosis 1(1.79)
JM Gómez, 2017	92	NR
Rami S, 2016	391	Hypothyroidism 171(44) Miscellaneous 49(5) Idiopathic thrombocytopenic purpura 48(12) Rheumatoid arthritis 43(11) Psoriasis 29(7) Inflammatory bowel disease 23(6) Vasculitis 19(5) Hemolytic anemia 13(3) Sweet syndrome 12(3) Hyperthyroidism(grades) 7(2) Fibromyalgia 7(2) Systemic Lupus 6(1.5) Pyoderma gangrenosum 5(1) Sjogren syndrome 5(1) Autoimmune neutropenia 4(<1) Immune mediated neuropathy 3(<1) Scleroderma 3(<1) Sarcoidosis 2(<1)
Arsene M, 2016	123	Systemic vasculitis 39(32) CTDs 31(25) Neutrophilic dermatosis 12(10) Inflammatory arthritis 28(23) Unclassified 13(11)

Y Takeoka, 2014	13	Sweet syndrome 4(30.8) Behçet like symptoms 2(15.4) Interstitial pneumonia 2(15.4) Large vessel vasculitis 2(15.4) Myelitis 2(15.4) HPS 1(7.7) Seronegative arthritis 1(7.7)
Li B, 2012	16	Rheumatoid arthritis 6(37.5) Cutaneous vasculitis 6(37.5) Behçet syndrome 2(12.5) Crohn disease 1(6.25) Graves 1(6.25)
Ki-Jo KIM, 2012	27	Idiopathic cutaneous vasculitis 6(22.2) Systemic lupus erythematosus 4(14.8) Hemolytic anemia 3(11.1) Immune thrombocytopenic purpura 3(11.1) Hashimoto's thyroiditis 3(11.1) Others 8(29.7)
Hollanda, 2011	46	NR
Dragmir M, 2006	32	Serologic immunological abnormalities 12(37.5) Bio-verified skin vasculitis 5(15.6) Rheumatoid arthritis 4(12.5) Sweet's syndrome 2(6.3) Sjögren Sicca syndrome 2(6.3) Autoimmune hemolytic anemia 2(6.3) Temporal arteritis 1(3.1) Necrotising panniculitis 1(3.1) Pyoderma gangrenosum 1(3.1) Livedo reticularis with Raynaud syndrome 1(3.1) myasthenia gravis 1(3.1)
F. Bouali, 2005	20	SLE 4(20) lupus like syndrome 1(5) Gougerot-Sjögren syndrome 1(5) Seronegative polyarthritis 1(5) Seropositive polyarthritis 1(5) AIHA 1(5) hyperthyroidism 2(10) pyoderma gangrenosum 1(5) colitis 1(5) sarcoidosis 1(5) autoimmune hepatitis 3(15) pericarditis 1(5)

		arthritis 1(5)
		lymphoma 1(5)
S. Giannouli, 2004	13	Leucocytoclastic vasculitis 6(46.2)
		Symmetric polyarticular synovitis 1(7.7)
		Relapsing polychondritis 1(7.7)
		Polymyalgia rheumatica 1(7.7)
		Ulcerative colitis 1(7.7)
		Thyroiditis Hashimoto's 1(7.7)
		Sjögren Sicca syndrome 1(7.7)
		Autoimmune thrombocytopenia 1(7.7)
Zhao S, 2002	19	Rheumatoid arthritis 6(31.6)
		Crohn disease 5(26.3)
		Hypersensitive vasculitis 2(10.5)
		Chronic lymphatic thyroiditis 2(10.5)
		Raynaud's syndrome 2(10.5)
		Behçet disease 1(5.3)
		Sjogren's syndrome 1(5.3)

NR, not reported