

Table S1 Clinical phenotypes of all reported SYS patients

Author/Phenotype	Fountain 2017, (18)	McCarthy 2018A, (12)	Palomares-Bralo 2017, (45)	Urreizti 2017, (46)	Tong 2018, (27)	Enya 2018, (47)	Jobling 2018, (48)	Bayat 2018, (49)	Matuszewska 2018, (50)	McCarthy 2018B, (12)	D Hidalgo- Santos 2018, (51)	Kleinendorst 2018, (26)	Negishi 2019, (52)	Patak 2019, (53)	Chen 2019, (54)	Guo 2019, (31)	Xiao 2020, (32)	Marbach 2020, (33)	Gregory 2019, (55)	Chen 2020, (56)	Ahn 2020, (57)	Halloun 2021, (58)	Infante 2022, (59)	Duan 2021, (60)	This study 2023	Summary	Percentage
Number of new cases	28	2	1	1	2	3	6	1	2	35	1	1	6	5	1	1	5	5	4	2	4	1	1	1	12	134	/
Poor suck in infancy	19/19	1/1	1/1	1/1	1/1	3/3	NA	1/1	2/2	33/35	1/1	1/1	4/6	2/5	0/1	1/1	5/5	4/5	4/4	2/2	3/4	1/1	1/1	1/1	11/12	112/114	98.3%
Neonatal hypotonia	19/21	2/2	1/1	1/1	2/2	3/3	6/6	1/1	2/2	32/32	1/1	1/1	6/6	4/5	0/1	1/1	4/5	4/5	4/4	2/2	3/4	1/1	1/1	0/1	11/12	112/120	93.3%
Joint contractures	23/28	2/2	1/1	1/1	2/2	3/3	6/6	1/1	2/2	31/35	1/1	1/1	6/6	4/5	0/1	1/1	5/5	4/5	4/4	2/2	3/4	1/1	1/1	1/1	8/10	119/134	88.8%
Feeding problems	22/22	2/2	1/1	1/1	1/1	3/3	4/6	1/1	2/2	33/35	1/1	1/1	4/6	1/5	0/1	1/1	5/5	4/5	4/4	2/2	3/4	1/1	1/1	0/1	11/12	106/121	87.6%
Facial dysmorphism	18/23	NA	1/1	1/1	2/2	3/3	6/6	1/1	2/2	NA	1/1	1/1	4/6	4/5	1/1	1/1	4/5	5/5	4/4	2/2	4/4	1/1	1/1	1/1	6/11	67/81	82.7%
Dysphagia	12/13	1/1	1/1	1/1	NA	3/3	NA	1/1	2/2	27/35	NA	NA	NR	1/5	NA	/	NR	NR	NA	NA	NA	NA	NA	0/1	1/1	50/64	78.1%
Respiratory dysfunction	8/12	2/2	1/1	1/1	1/1	3/3	NA	1/1	2/2	22/35	NA	1/1	0/1	4/5	0/1	1/1	5/5	NR	2/4	2/2	3/4	1/1	1/1	0/1	10/11	70/95	77.9%
Autism	14/16	2/2	1/1	NA	NA	1/1	NA	NA	NA	7/12	1/1	NA	1/1	4/5	NA	/	/	2/4	NA	/	2/4	1/1	1/1	1/1	/	38/50	76.0%
Chronic constipation	11/17	1/2	1/1	NA	NA	NA	NA	1/1	0/1	25/33	NA	NA	NR	1/5	NA	/	NR	3/5	2/4	NA	1/4	NA	1/1	NA	/	47/74	63.5%
Temperature instability	9/19	1/2	1/1	1/1	NA	NA	NA	0/1	1/1	27/35	1/1	NA	NR	NA	NR	/	NR	NR	NA	NA	NR	NA	NA	0/1	NA	41/61	61.7%
Sleep apnea	11/19	2/2	1/1	1/1	1/2	NA	3/6	NA	2/2	22/28	NA	1/1	1/5	2/5	NA	/	1/5	2/4	2/4	NA	2/4	NA	1/1	NA	NA	55/94	58.5%
Scoliosis	9/20	2/2	NA	NA	NA	1/1	6/6	NA	1/1	10/19	NA	NA	NR	1/5	0/1	NA	NR	4/5	2/4	NA	NR	NA	NA	0/1	0/10	36/70	51.4%
Reflux/GERD	11/18	2/2	1/1	NA	NA	NA	4/6	1/1	1/1	15/34	1/1	NA	NR	2/5	NA	/	NR	4/4	2/4	NA	1/4	NA	NA	0/1	/	45/89	50.6%
Brain MRI abnormalities	NA	NA	0/1	1/1	0/1	2/3	4/4	1/1	0/1	NA	0/1	0/1	2/6	3/5	NA	NA	NA	NA	2/4	0/2	2/4	0/1	NA	0/1	9/12	26/49	53.1%
Congenital heart defect	NA	NA	NA	0/1	NA	NA	2/6	0/1	NA	NA	NA	NA	NA	1/5	NA	NA	NA	NA	1/4	2/2	NA	0/1	NA	0/1	11/12	17/34	50.0%
Hypogonadism	13/24	0/1	1/1	1/1	1/1	1/1	1/6	NA	NA	9/35	1/1	NA	4/6	1/5	1/1	1/1	3/3	2/4	1/4	0/0	1/4	NA	1/1	1/1	2/6	46/107	43.0%
Seizures	7/21	1/2	1/1	NA	1/1	2/3	1/1	NA	1/1	7/34	NA	NA	2/6	2/5	0/1	/	NA	NA	NA	NA	1/4	NA	1/1	0/1	4/5	31/87	35.6%
Excessive weight gain or obesity after 6 years old	9/20	NA	0/1	0/1	NA	NA	NA	0/1	0/2	6/35	NA	1/1	3/5	1/5	0/1	/	NR	4/4	NA	NA	0/4	NA	NA	1/1	/	25/81	30.9%
Hyperphagia	7/19	0/1	0/1	NA	NA	NA	NA	NA	0/1	7/34	NA	0/1	NR	NA	NA	/	NR	4/4	NA	NA	NA	NA	NA	1/1	/	19/62	30.7%

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