

Supplementary Table 1: Numbers of patients according to neuromuscular referral centers where the patients were followed, age of first clinical manifestation and the referring clinicians.

Country (number of patients ⁺)	City	Number of patients with first clinical manifestation <5 years old (190 patients)	Number of patients with first clinical manifestation <2 years old (151 patients)	Contributors
France (n=35)	Garches	17	15	Quijano-Roy S; Dabaj I
	Paris (AT*)	7	5	Mayer M.
	Paris (PS*)	1	1	Voit T
	Lille	2	1	Cuisset JM
	Paris (Necker)	2	2	Desguerre I
	Nantes	2	0	Mercier S
	Strasbourg	2	1	Laugel V
	Tours	1	1	Lagrue E
	Reims	1	1	Sabouraud P
UK (n=29)	London	17	15	Muntoni F; Sarkozy A
	Newcastle	12	9	Bertoli M; Bushby K; Marini-Bettolo C
China (n=23)	Beijing	23	22	<u>Xiong H.</u>
Italy (n=20)	Roma (IRCCS)	5	5	Mercuri E
	Turin	4	3	Vercelli L
	Milano	3	2	Maggi L
	Naples	3	3	Politano L
	Messina	2	2	Messina S
	Roma (GCH)	2	1	D'Amico A
	Pisa	1	1	Siciliano G
USA, (n=19)	Torrance	9	6	Rutkowski A; R Alvarez (Cure CMD)
	Bethesda	9	8	Bönnemann CG; Donkervoort S; Foley AR
	Los Angeles	1	1	Pierson TM
Spain (n=17)	Barcelona	17	7	Nascimento A
Argentina (n=16)	Buenos Aires	16	11	Monges S
Brazil (n=8)	Sao Paulo	5	5	Zanoteli E
	Belo Horizonte	3	3	Gurgel Giannetti J
Japan (n=8)	Tokyo	8	7	Komali H; Ishiyama A
Chile (n=5)	Sant. de Chile (CLC/RR*)	2	2	Kleinsteuber K
	Santiago de Chile (LCM*)	1	1	Castiglioni C
	Santiago de Chile (CLC*)	2	2	Erazo Torricelli R
Canada (n=3)	Toronto	3	1	Yoon G
Germany (n=3)	Essen	3	3	Schara U
Australia (n=2)	Victoria	2	2	Ryan M
Belgium (n=2)	Brussels	2	2	<u>Deconnick N</u>

+ Number of patients included at the initiation of the study, i.e. with first clinical manifestation <5 years old

* AT: Armand-Trousseau; PS: Pité-salpétriére; GCH: Gesù Children's Hospital; CLC: Clínica Las Condes; RR: Hospital Roberto del Río; LCM: Hospital Luis Calvo Mackenna;

Supplementary Table 2: Variables that were captured for each patient to populate the clinical data sheet:

Demographic information:	Gender, date of birth, country of origin, referring center and clinician, country where attending neuromuscular clinic, date of last visit, date of death if applicable
<i>LMNA</i> mutation characteristics	DNA, amino acids modifications, Exon
Circumstances of onset	Age and symptom(s) of onset
CK level	Maximal CK levels reached
Muscle biopsy main characteristics	Age at the biopsy, biopsied muscle, presence or absence of dystrophy, inflammation or other particular findings
Motor achievements	Ages of acquiring and losing of major motor milestones (Sitting, crawling, walking supported, walking unsupported and running)
Orthopedic features if applicable	Affected joints and age of onset of joint contractures and scoliosis,
Orthopedic interventions* if applicable	Age of joint contractures and scoliosis non-surgical and surgery treatments
Respiratory interventions* if applicable	Age of Intermittent positive pressure breathing, non-invasive ventilation, tracheostomy)
Cardiac abnormalities* if applicable	Age at onset of cardiac abnormalities (P-wave flattening, Arrhythmias, conduction defect, echocardiographic abnormalities)
Cardiac interventions* if applicable	Age of first heart specific drugs, pacemaker and implantable cardioverter defibrillator (ICD)
Corticosteroids usage if applicable	Age at starting and arrest, type of steroid
Gastrointestinal features and intervention* if applicable.	Age of any nutritional, feeding, metabolic abnormalities, gastrostomy feeding tube

*For the definition of cardiac abnormalities and cardiac, gastroenteric, orthopedic and respiratory interventions, see material and methods section.

Supplementary Table 3: *LMNA* variants identified in patients included in the study cohort. (according to *LMNA* # NM_170707.4 reference sequence).

Nucleotide change	Aminoacid change	Exon	Mutation type	Number of cases
c.91_93delGAG	p.Glu31del	exon 1	small deletion (in frame)	3
c.91G>A	p.Glu31Lys	exon 1	missense	4
c.94_96delAAG	p.Lys32del	exon 1	small deletion (in frame)	9
c.94A>G	p.Lys32Glu	exon 1	missense	1
c.96G>C	p.Lys32Asn	exon 1	missense	1
c.103_105delCTG	p.Leu35del	exon 1	small deletion (in frame)	1
c.104T>A	p.Leu35Gln	exon 1	missense	1
c.104T>C	p.Leu35Pro	exon 1	missense	3
c.109_111dup	p.Glu37dup	exon 1	small insertion (in frame)	1
c.115A>G	p.Asn39Asp	exon 1	missense	1
c.115A>T	p.Asn39Tyr	exon 1	missense	1
c.116A>G	p.Asn39Ser	exon 1	missense	13
c.117T>A	p.Asn39Lys	exon 1	missense	1
c.117T>G	p.Asn39Lys	exon 1	missense	1
c.121C>A	p.Arg41Ser	exon 1	missense	2
c.122G>C	p.Arg41Pro	exon 1	missense	1
c.125T>C	p.Leu42Ser	exon 1	missense	1
c.128C>A	p.Ala43Glu	exon 1	missense	1
c.143G>C	p.Arg48Pro	exon 1	missense	1
c.149G>C	p.Arg50Pro	exon 1	missense	2
c.305T>C	p.Leu102Pro	exon 1	missense	1
c.392A>G	p.Gln131Pro	exon 2	missense	1
c.422T>C	p.Leu141Pro	exon 2	missense	1
c.513+2T>C	?	intron 2	intronic (splice site)	1
c.522_536del	p.175_179del	exon 3	small deletion (in frame)	1
c.695G>A	p.Gly232Glu	exon 4	missense	1
c.745C>T	p.Arg249Trp	exon 4	missense	30
c.746G>A	p.Arg249Gln	exon 4	missense	3
c.775T>A	p.Tyr259Asn	exon 4	missense	1
c.781_783delAAG	p.261delLys	exon 4	small deletion (in frame)	1
c.810+1G>C	?	intron 4	intronic (splice site)	1
c.832G>C	p.Ala278Pro	exon 5	missense	1
c.854T>A	p.Val285Glu	exon 5	missense	1
c.880_882delCAG	p.Gln294del	exon 5	small deletion (in frame)	1

c.905T>C	p.Leu302Pro	exon 5	missense	1
c.954G>A	p.Ala318Ala	exon 6	missense	1
c.976T>A	p.Ser326Thr	exon 6	missense	1
c.1072G>A	p.Glu358Lys	exon 6	missense	10
c.1117A>G	p.Ile373Val	exon 6	missense	1
c.1118T>A	p.Ile373Asn	exon 6	missense	1
c.1124C>G	p.Ala375Gly	exon 6	missense	1
c.1139T>C	p.Leu380Ser	exon 6	missense	1
c.1147G>A	p.Glu383Lys	exon 6	missense	2
c.1151A>G	p.Glu384Gly	exon 6	missense	1
c.1163G>C	p.Arg388Pro	exon 7	missense	1
c.1201C>T	p.Arg401Cys	exon 7	missense	1
c.1325T>G	p.Val442Gly	exon 7	missense	1
c.1337A>G	p.Asp446Gly	exon 7	missense	1
c.1346G>T	p.Gly441Val	exon 7	missense	1
c.1357C>T	p.Arg453Trp	exon 7	missense	7
c.1358G>C	p.Arg453Pro	exon 7	missense	1
c.1364G>C	p.Arg455Pro	exon 7	missense	1
c.1366A>G	p.Asn456Asp	exon 7	missense	2
c.1368C>A	p.Asn456Lys	exon 7	missense	1
c.1368C>G	p.Asn456Lys	exon 7	missense	1
c.1381-2A>G	?	intron 7	intronic (splice site)	2
c.1391T>G	p.Met464Arg	exon 8	missense	1
c.1399T>A	p.Trp467Arg	exon 8	missense	1
c.1478A>C	p.Gln493Pro	exon 8	missense	1
c.1488_1488+9del	?	exon 8 / intron8	small intronic/exonic deletion	1
c.1488+1G>A	?	intron 8	intronic (splice site)	1
c.1489-14_1489-7del	?	intron 8	small intronic deletion	1
c.1540T>A	p.Trp514Arg	exon 9	missense	1
c.1558T>C	p.Trp520Arg	exon 9	missense	1
c.1580G>C	p.Arg527Pro	exon 9	missense	4
c.1583C>G	p.Thr528Arg	exon 9	missense	2
c.1583C>A	p.Thr528Lys	exon 9	missense	2

Supplementary Table 4. Outlier Analysis

Patient ID	26	60	79	183	186
Country	France	England	Brazil	Italy	Italy
Age of Onset (years)	2	0.5	2	2	2
Max Motor Function	Run	Walk alone	Run	Walk alone	Walk alone
Age at Independent Ambulation (years)	1.1	1.0	1.2	1.1	1.0
Age at Walking Loss (years)	-	30	38	-	36
Age at 1st Respiratory Intervention (years)	-	29	-	10	35
Age at 1st Cardiac Abnormality (years)	29.8	-	34	33	34
Age at 1st Cardiac Intervention (years)	32.6	30	-	40	35

Supplementary Figure 1: Geographic distribution of the studied cohorts. Color indicated the number of case reported in the country.

