

Supplementary materials

Table 1. Summarization of the grade of weakness among the cases.

Muscle Weakness			Total (26/26)		
	Total	Mild (n)		Severe (n)	
LL weakness	26	10	4 acute	16	11 acute
			6 chronic		5 chronic
UL weakness	26	14	6 acute	12	9 acute
			8 chronic		3 chronic

Table 2. CPK level grading among the subjects.

CPK (units/liter)	n(%)
Normal (>400)	1(3.8)
High normal (400-1000)	4(15.4)
+ (1000-5000)	14 (53.8)
++(5000-10000)	2(7.7)
+++ (10000-20000)	2(7.7)
++++ (> 20000)	3(11.5)

Table 3. Proportion of patients with spontaneous activities recorded by EMG.

Spontaneous activities			
Present		Absent	
16 (61.5%)		10 (38.5%)	
Fibs	10	Acute (8)	Acute (5)
		Chronic (2)	
PSWs	10	Acute (8)	Chronic (5)

		Chronic (2)	
CRDs	6	Acute (1)	
		Chronic (5)	

Fibs “fibrillation potentials” PSWs “positive sharp waves” CRDs “complex repetitive discharges”.

Table 4. Con-Mac EMG Data of MUP analysis of 3 muscles (Tibialis Anterior (TA), Biceps brachii (BB), and Deltoid (DEL) muscles for the 2 study groups.

	Cases	Control	
Con-Mac EMG	Median(Range)	Median(Range)	P value
TA AMP (μv)	55(22-195)	213(99-384)	<0.001
TA AREA (mm^2)	84(17-774)	686(43-1716)	<0.001
TA DUR (msec)	4.9(1.3-18.9)	13.2(7.1-20.7)	<0.001
BB AMP (μv)	48(12-170)	117(57-509)	<0.001
BB AREA (mm^2)	145(12-720)	436(105-636)	0.001
BB DUR (msec)	4.2(2.5-19.2)	11.3(1.9-15.7)	0.049
DEL AMP (μv)	62(0-189)	115(65-984)	<0.001
DEL AREA (mm^2)	96(0-1023)	475(249-1742)	<0.001
DEL DUR (msec)	4.4(0-21.9)	11(1.9-18.2)	0.30

P<0.05 is statistically significant, analysis was done by Mann Whitney test. MUP “motor unit potential” TA “tibialis anterior” BB “biceps brachii” DEL “deltoid”. AMP “amplitude” DUR “duration”.

Table 5. Roc curve results to detect cut off point, sensitivity, and specificity of Con-mac in diagnosis of inflammatory myopathy.

	AUC (95% CI)	P value	Cutoff point	Sensitivity	Specificity
BB amp (μv)	0.885	<0.001	≤ 77	84.62	91.67

BB area (mm²)	0.84	<0.001	≤277	84.62	80.0
BB duration(msec)	0.715	0.036	≤8.3	80.77	70
Del amp (μv)	0.854	<0.001	≤77	73.08	92.86
Del area (mm²)	0.873	<0.001	≤235	65.38	100
Del duration(msec)	0.612	0.301	≤7.4	69.23	70
TA amp (μv)	0.947	<0.001	≤128	88.46	91.67
TA area (mm²)	0.861	<0.001	≤209	80.77	91.67
TA duration (msec)	0.845	<0.001	<10.4	84.62	83.33

* BB (biceps brachii), Del (deltoid), TA (tibialis anterior), amp (amplitude)

Table 6. Correlation between the presence of spontaneous activities, CPK level, and power in upper and lower limbs as measured by MRC grading and age.

Spontaneous activities	Correlation coefficient (r)	P value
CPK	0.751*	0.002
LL power	-0.228	0.263
UL power	-0.447*	0.022
Age	0.037	0.859

Table 7. Correlation between CPK level, and power in upper and lower limbs as measured by MRC grading:

CPK level (U/L)	Correlation coefficient (r)	P value
UL power	-0.484	0.08
LL power	-0.513	0.061

Table 8. Comparison of Con-Mac data between the patients who had spontaneous activities during rest and who had not.

	Spontaneous activities		p value
	No	Yes	
	Mean±SD	Mean±SD	
MACRO_TA AMP (μv)	92.7±56.1	40.4±15.1	0.002
MACRO_TA AREA (mm^2)	261.4±260	82.9±42.3	0.016
MACRO_TA DUR (msec)	7.7±5.1	5.6±4.5	0.289
MACRO_BB AMP(μv)	69.2±48.5	38.1±19.5	0.032
MACRO_BB AREA(mm^2)	220.1±175.9	128.6±89.1	0.142
MACRO_BB DUR(msec)	7.7±5.5	4.6±1.9	0.049
MACRO_DEL AMP(μv)	84.9±50.8	44.2±26	0.013
MACRO_DEL AREA(mm^2)	304.1±305.6	116.4±97.6	0.034
MACRO_DEL DUR(msec)	9.3±6.6	4.7±4.3	0.042

TA ‘tibialis anterior’ BB ‘biceps brachii’ DEL ‘deltoid’, AMP ‘amplitude’ DUR ‘duration.’”

Table 9. Correlation between Con-Mac EMG variables, and CPK level.

Con Mac	CPK level	
	r	P value
TA amp (μv)	-0.708**	0.005
TA area(mm^2)	-0.282	0.329
TA duration(msec)	-0.088	0.765
BB amp(μv)	-0.623*	0.017
BB area(mm^2)	-0.482	0.081
BB duration(msec)	-0.304	0.291
Del amp(μv)	-0.554*	0.04
Del area (mm^2)	-0.191	0.512
Del duration(msec)	-0.176	0.547

Table 10. Disease progression and Con-Mac data.

	Rapidly progressive		Gradual progressive		P value
	Mean	SD	Mean	SD	
MACRO_TA AMP(μv)	61.4	47.4	85.7	54.9	0.238
MACRO_TA AREA(mm^2)	189	232.6	197.1	218	0.928
MACRO_TA DUR(msec)	7.3	5.6	6.4	4.2	0.656
MACRO_BB AMP(μv)	46.6	17.6	69.8	58.2	0.168
MACRO_BB AREA(mm^2)	127.9	59.8	251.4	200.5	0.038
MACRO_BB DUR(msec)	5.6	4.2	7.6	5.1	0.298
MACRO_DEL AMP(μv)	61.2	43.6	78.7	50.8	0.355
MACRO_DEL AREA(mm^2)	248.1	317.4	213	187.2	0.74
MACRO_DEL DUR(msec)	6.7	6	8.4	6.5	0.5

Table 11. Comparison between acute and chronic cases regarding Con-Mac Data.

	Acute	Chronic	P value
	Mean \pm SD	Mean \pm SD	
MACRO_TA AMP*(μv)	44(23-170)	98(22-195)	0.217
MACRO_TA AREA*(mm^2)	89(25-469)	78(17-774)	0.760
MACRO_TA DUR*(msec)	4.9(2.5-17.9)	5.9(1.3-18.9)	0.760
MACRO_BB AMP*(μv)	35(12-113)	57(21-170)	0.027
MACRO_BB AREA*(mm^2)	103(12-357)	160(112-720)	0.036
MACRO_BB DUR*(msec)	4.1(2.6-19.2)	4.7(2.5-16.7)	0.838
MACRO_DEL AMP*(μv)	45(0-98)	77(25-189)	0.061
MACRO_DEL AREA*(mm^2)	96(0-340)	95(40-1023)	0.384
MACRO_DEL DUR*(msec)	4(0-16)	4.9(3.1-21.9)	0.305

SD: standard deviation, $P < 0.05$ is statistically significant, analysis was done by independent t test, * data presented as median with range and analysed by Mann Whitney test

