Neurometabolite changes in patients with complex regional pain syndrome using proton magnetic resonance spectroscopy

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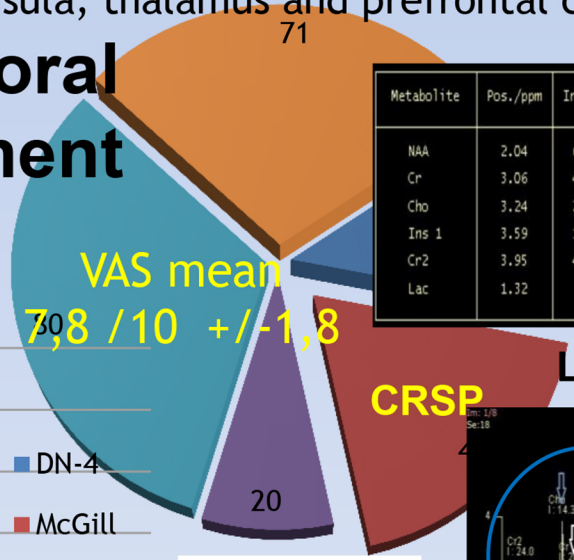
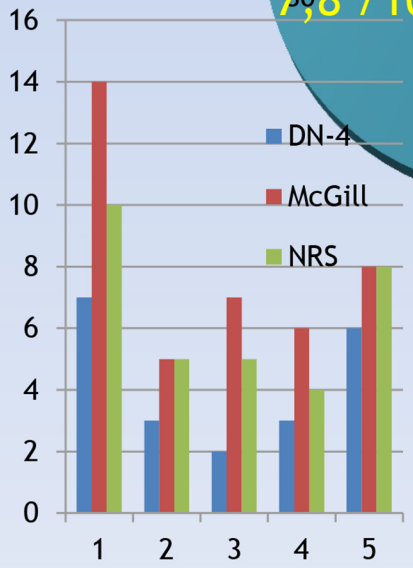
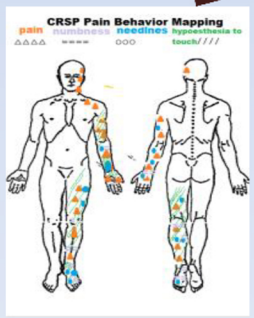
Complex regional pain syndrome (CRPS) develops after an injury, stroke, or fracture that affects strong neuropatic pain one part of the body, Early diagnosis and implemented treatment reverse the effects of the disease in the form of disability

AIM: early evaluation of metabolites of neuronal damage in the basal ganglia, insula, thalamus and prefrontal cortex in CRSP syndrome

Behavioral assesment

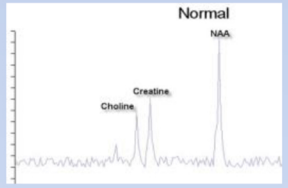






Metabolite	Pos./ppm	Integral	Ratio
NAA	2.04	60.95	1.40
Cr	3.06	43.39	1.00
Cho	3.24	25.97	0.60
Ins 1	3.59	15.81	0.36
Cr2	3.95	40.95	0.94
Lac	1.32	8.96	0.21

Left BG



CRSP findings:

Cho = NAA

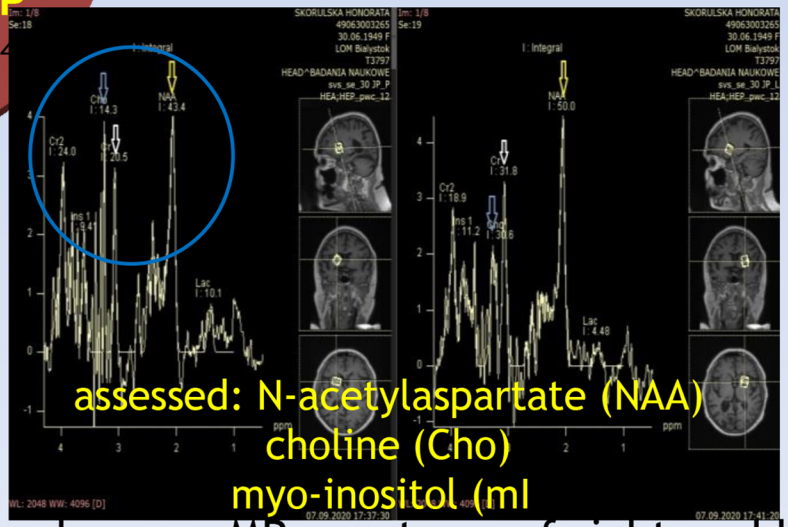
Cho > Cr

mMR Biograph scanner assesment

Metabolite	Pos./ppm	Integral	Ratio
NAA	2.06	39.19	1.00
Cr	3.08	39.16	1.00
Cho	3.26	39.59	1.01
Ins 1	3.60	3.05	0.08
Cr2	3.96	16.13	0.41
Lac	1.42	8.14	0.21

Right BG

1H-MRS was performed using the single voxel spectroscopy (SVS) metabolic disturbances in a small tissue volume, previously strictly defined on the basis of morphological MR examination.



Conclusions:

CRSP may be assessed on the basis of mMR metabolites

CRSP left syndrome mMR spectrum of right and left basal ganglia