HEREDITARY NEUROPATHY WITH LIABILITY TO PRESSURE PALSY: AN ATYPICAL CLINICAL PRESENTATION

Sergio Altomare, T. Francavilla, M. Guido, C. Tortorella, G. Libro, A. La Neve, IL Simone, M. Trojano

Introduction

Hereditary neuropathy with liability to pressure palsy (HNPP) is an autosomal dominant demyelinating neuropathy, characterized by recurrent sensory and motor nerve palsies, usually precipitated by minor trauma or compression. We report a case of HNPP with atypical clinical presentation.

We describe a 60-year-old woman who at age 50 began to develop pain in the hands, knees and thighs and paresthesias with abnormal sensation of cold and heat ascending from legs to arms and to the left side of face. She also experienced episodes of numbness in left foot and left side of face. In January and October 2016 she presented with acute right arm palsy, spontaneously recovered after twenty days (no trauma was reported). The patient referred that some of her relatives complained of acroparesthesias, and their electrophisiological study showed a demyelinating distal neuropathy.

	Latenza	Ampiezza	VDC	Area	Distanza
	ms	mV	m/s	ms*mV	mm
Medianus Motoria Sinistra					
Wrist - APB	7.35	7.2			
Elbow-Wrist	12.3	6.7	46.7		231
Ab. elbow-Elbow	10.8	5.4	67.3		101
Medianus Motoria Destra					
Wrist - APB	6.75	5.9			
Elbow-Wrist	11.3	5.4	51.6	26.9	235
Ab. elbow-Elbow	12.5	9.2	84.2		101
Peroneus Motoria Sinistra					
Ankle - EDB	6.40	4.4		12.8	
Bl. knee-Ankle	14.1	3.9	44.3	10.8	341
Fib. head-Bl. knee	15.5	3.7	72.1	10.8	101
Peroneus Motoria Destra					
Ankle - EDB	5.33	3.4		15.5	
Bl. knee-Ankle	11.7	3.4	50.5	24.5	322
Fib. head-Bl. knee	13.1	2.9	65.0	12.5	91.0
Tibialis Motoria Sinistra					
Ankle - Abd hal	3.52	4.7		12.6	
Tibialis Motoria Destra					
Ankle - Abd hal	5.13	5.3		12.7	
Knee-Ankle	12.6	3.6	43.5		325
Ulnaris Motoria Sinistra					
Wrist - ADM	2.54	11.7			
Bl. elbow-Wrist	6.96	10.4	50.0		221
Ab. elbow-Bl. elbow	9.17	10.9	54.8		121
Ulnaris Motoria Destra					
Wrist - ADM	3.24	10.1		53.2	
Bl. elbow-Wrist	7.08	9.7	54.9		211
Ab. elbow-Bl. elbow	9.92	7.7	49.6		141

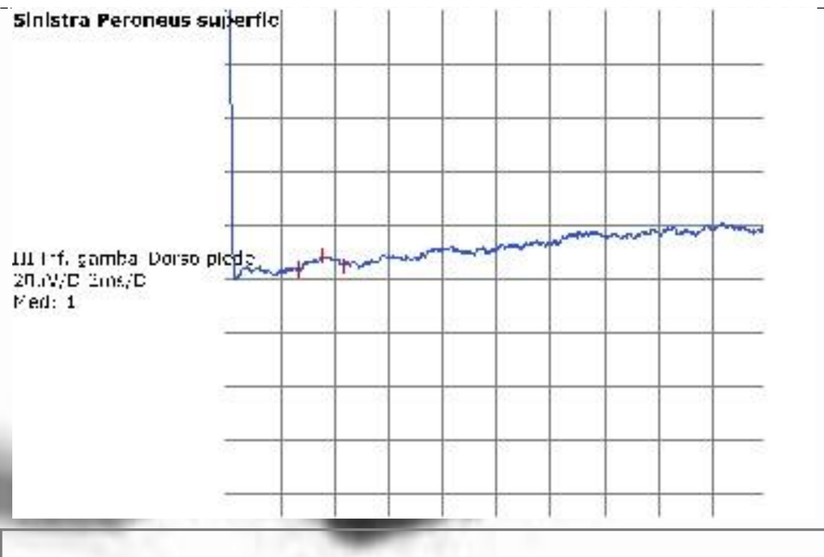
	Latenza	Ampiezza	VDC	Area	Distanza
	ms	uV	m/s	ms* uV	
Medianus Sensitiva Sinistra					
Wrist - Dig II					
Medianus Sensitiva Destra					
Wrist - Dig II	4.93	4.9	26.6		
Peroneus superfic Sensitiva Sinistra					
III inf. gamba - Dorso piede	2.67	5.3	45.3		
Peroneus superfic Sensitiva Destra					
III inf. gamba - Dorso piede	2.43	4.5	45.3		
Suralis Sensitiva Sinistra					
Mid. lower leg - Lat. Malleolus	3.80	4.9	40.8		
Ulnaris Sensitiva Sinistra					
Wrist - Dig V	2.94	2.2	39.1		
Ulnaris Sensitiva Destra					
Wrist - Dig V					

Methods

The **neurological examination** of the patient was normal, except for a slight strength deficit in thigh flexion bilaterally. Deep tendon reflexes were normal. Deep and superficial sensibility were normal. Neither pes cavus nor hammertoes was present. MRI showed small area of gliosis in the brain, diffuse spinal spondyloarthrosis and L4-L5 discal protrusion. At CSF analysis a moderate blood brain barrier dysfunction without pleocytosis was present. **Nerve conduction study** revealed a mixed sensory-motor polyneuropathy, with a main distal and sensorial involvement. Abnormal sensory responses mostly involved ulnar (fibers were almost not excitable), median (moderate VCS slowing at wrist and reduced SNAP), left sural (moderate VCS slowing and reduced SNAP) and peroneus nerves (slight VCS slowing and reduced SNAP). Distal motor latencies of median and peroneus nerves were bilaterally prolonged. VCM of median nerve was normal at Erb-axilla, elbow-wrist tracts and after Erb point stimulation. F waves and Kugelberg test were normal. No conduction blocks were registered. Needle electromyography showed no sign of active denervation. Anti-MAG, anti-myelin, anti-ganglioside were not detectable. Onconeural antibodies and antibodies against neuronal cell-surface and synaptic proteins were negative. No mutation of transthyretin gene was observed. Skin biopsy was normal. A diagnosis of fibromyalgia was excluded according to American College of Rheumatology (Wolfe F, et al., 2010) Classification criteria (the patient had diffused pain with WPI <6, absense of tenderness on palpation, fatigue, non-restorative sleep and cognitive dysfunction).

Results

Nerve biopsy showed a remarkable thickening of perinevrium. The **genetic testing** showed a 1.5-Mb deletion of chromosome 17p11.2 with reduced expression of PMP22 gene and a diagnosis of HNPP was performed. The patient was treated with gabapentin, titrated to 600 mg/die, with symptoms relief.



Conclusions

This clinical presentation is atypical for the presence of **pain**, generally not conspicuous symptom in HNPP, and presence of **paresthesias**, more typical symptom of small fiber neuropathies. The patient had **facial** numbness (cranial nerves are affected rarely). Moreover the nerve palsy wasn't associated to any precipitating factor, which is usually identified. The clinical features could be suggestive of a Charcot-Marie-Tooth (CMT) disease type 1 that actually shows mild overlap with HNPP. Diagnosis of HNPP was confirmed by genetic testing.

Bibliography

-PMP22 related neuropathies: Charcot-Marie-Tooth disease type 1A and Hereditary Neuropathy with liability to Pressure Palsies

Barbara W van Paassen*, Anneke J van der Kooi, Karin Y van Spaendonck-Zwarts, Camiel Verhamme, Frank Baas and Marianne de Visser

Orphanet Journal of Rare Diseases 2014, 9:38

-Electrodiagnostic Characterization of Hereditary Neuropathy With Liability to Pressure Palsies

Sachiko Takahashi, MD,*† Marvin Chum, MD,*† and Kurt Kimpinski, MD, PhD*†

Journal of CLINICAL NEUROMUSCULAR DISEASE Volume 18, Number 3 March 2017

-The *PMP22* Gene and Its Related Diseases

Jun, Brett Parker, Colin Martyn, Chandramohan Natarajan, and Jiasong Guo

Mol Neurobiol. 2013 April ; 47(2): 673–698. doi:10.1007/s12035-012-8370-x.

Sin

XLVIII CONGRESSO NAZIONALE
14-17 OTTOBRE 2017 – NAPOLI

WebPoster
http://congress.wooky.it/NEURO2017/