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Poly Neuropathy Beginning Motor, Proximo Distal Myelinic, Symmetrical of The Lower Limbs Revealing A Deficiency in Vitamin D2 Concerning A Clinical Presentation

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Abstract

Study suggests that vitamin D deficiency may contribute to the development of painful neuropathy by playing a role in the pathogenesis of small fiber neuropathy, which particularly affects nociceptive receptors.

Case Presentation

Patient coming for consultation for progressive onset paresthesia over four months with no known pathological history;

General physical examination

Good general condition, good coloration of the mucous membranes, a good state of hydration

Vital parameters

Blood pressure 120/62 mm Hg, Pulse 74 pulses

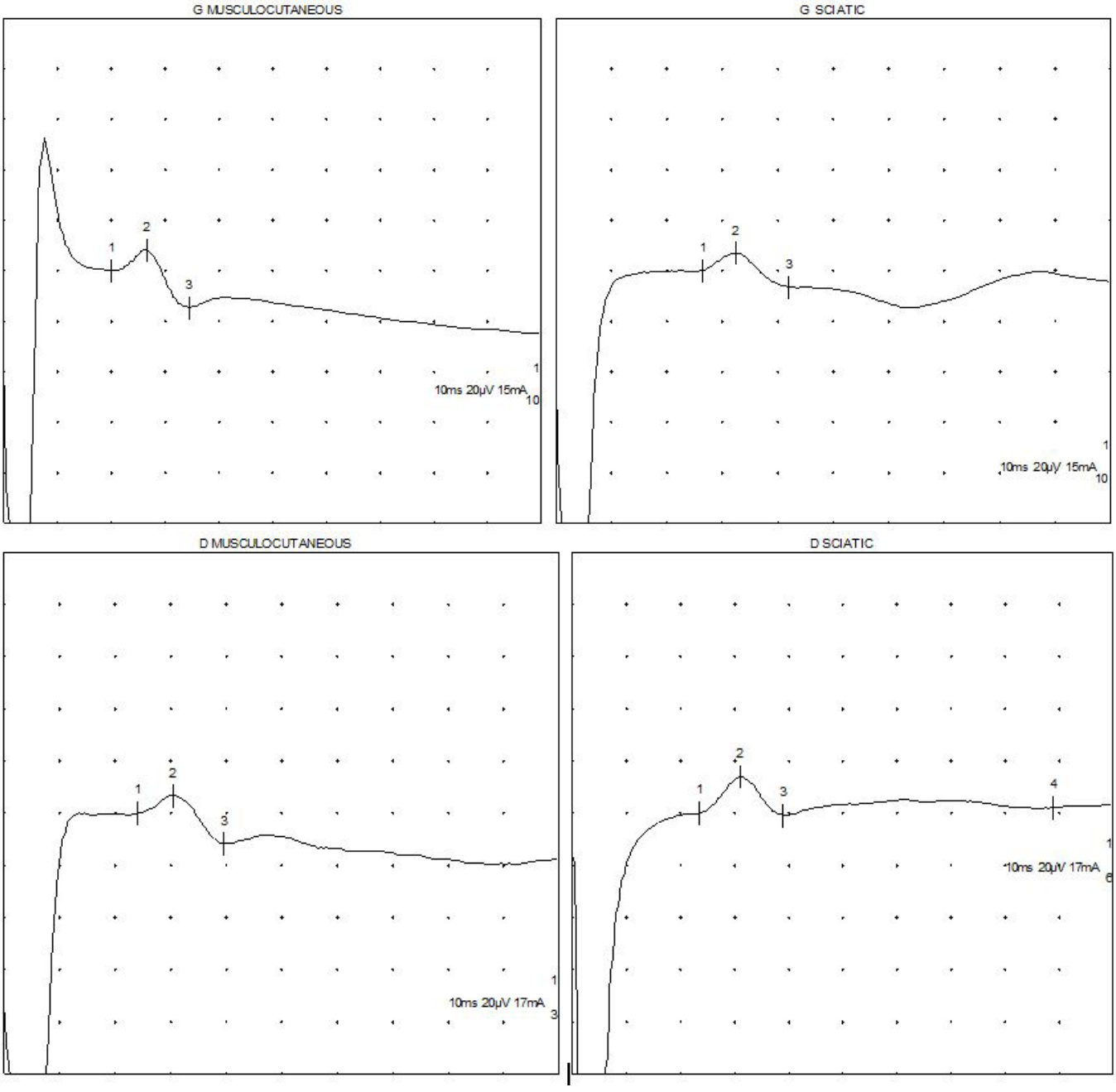
Weight 70 Kg

Neurological examination

Evidence of neurogenic syndrome in all four limbs
In front of this table the electro neurography was requested
The results of which were in favor of an early motor poly neuropathy, more myelinic, symmetrical in the lower limbs
Several blood tests were requested without particularity and the dosage of vitamin D came back in favor of a deficiency. The management was based on vitamin D supplementation and symptomatic treatment of pain with amendment after a period .of five months

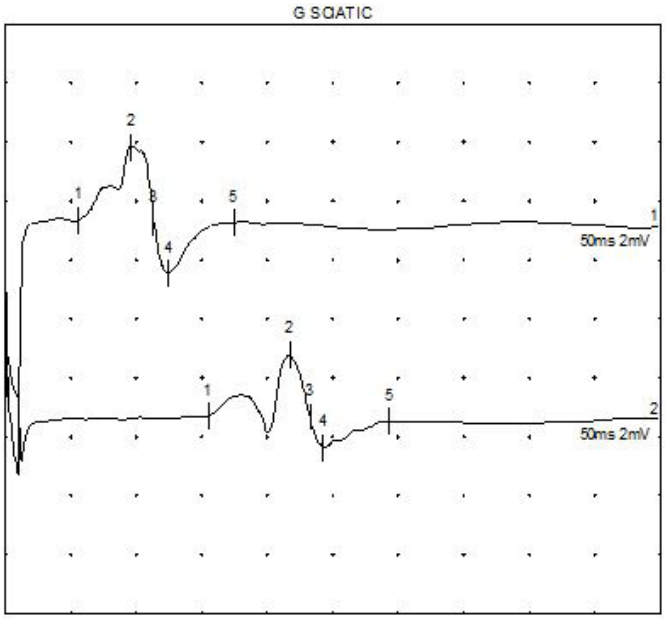
Sensitive Driving Speed

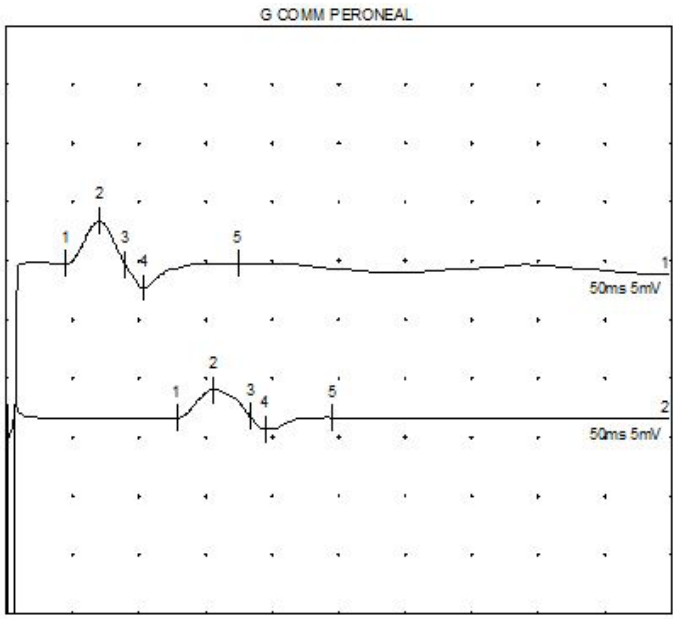
Nerf / Sites	Lat.	Amp.2-3	Dur.	Dist.	Vit.
	ms	µV	ms	cm	m/s
G MUSCULOCUTANEOUS					
1. ANKLE	2,00	22,9	1,45	10	50,0
D MUSCULOCUTANEOUS					
1. ANKLE	2,40	18,4	1,55	10	41,7
G SCIATIC					
1. ANKLE	2,65	13,5	1,55	12	45,3
D SCIATIC					
1. ANKLE	2,35	14,6	1,55	12	51,1

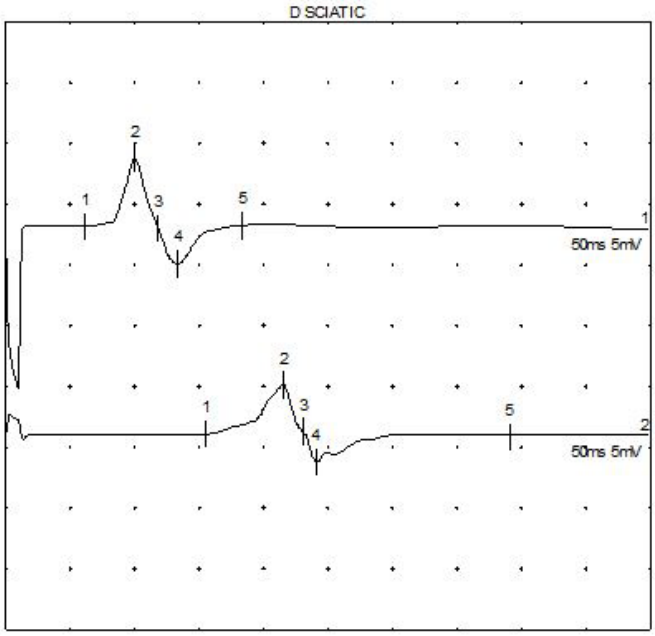


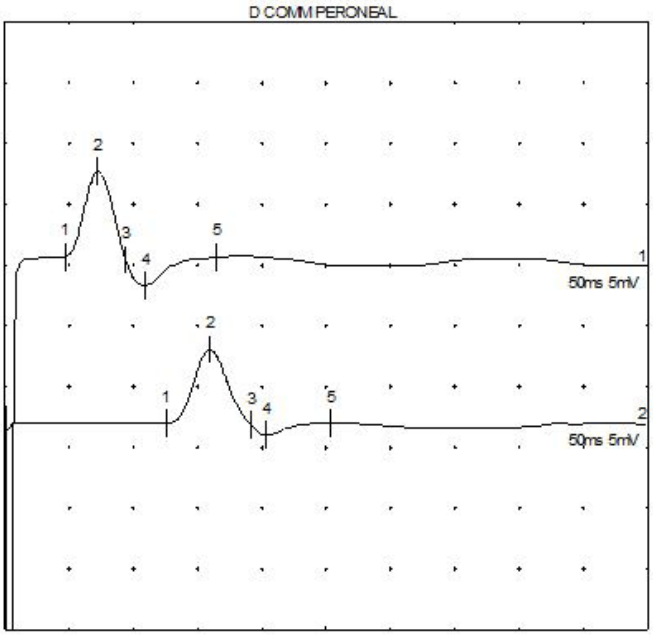
Driving Speed

Nerf / Sites	Lat.	Amp.1-2	Surf.1-5	Surf.1-5	Dist.	Vit.
	ms	mV	mVms	%	cm	m/s
G SCIATIC						
1. ANKLE	5,65	2,5	11,7	100		
2. PERONE HEAD	15,55	2,1	8,9	76	38	38,4
D SCIATIC						
1. ANKLE	6,10	5,6	18,5	100		
2. PERONE HEAD	15,50	4,0	18,0	97,7	39	41,5
G COMM PERONEAL						
1. MALLEOLE	4,50	3,7	13,8	100		
2. HOLLOW POPLITE	12,90	2,4	10,6	76,9	35	41,7
D COMM PERONEAL						
1. MALLEOLE	4,65	7,1	24,1	100		
2.HOLLOW POPLITE	12,60	6,2	20,7	85,8	35	44,0



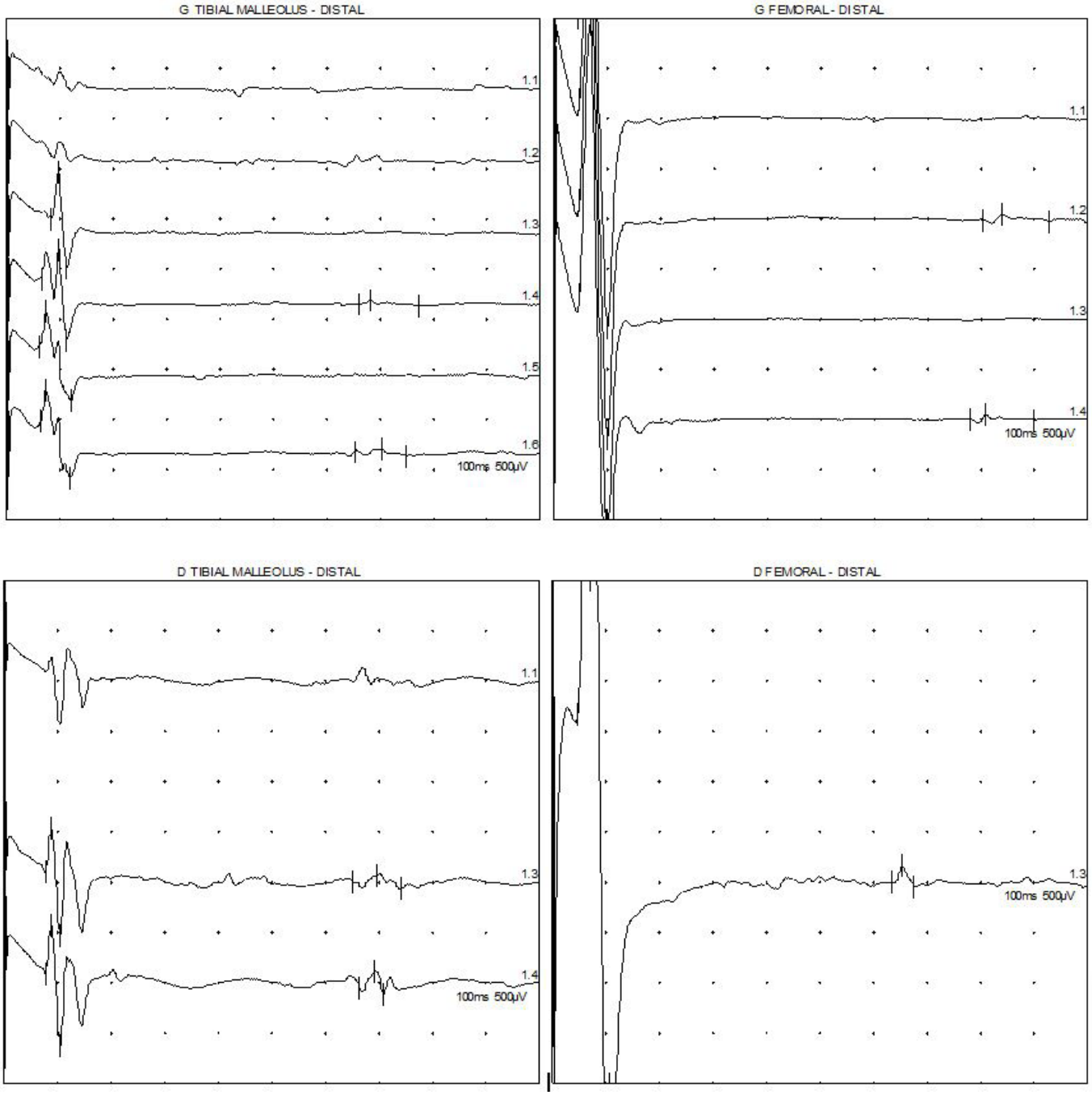




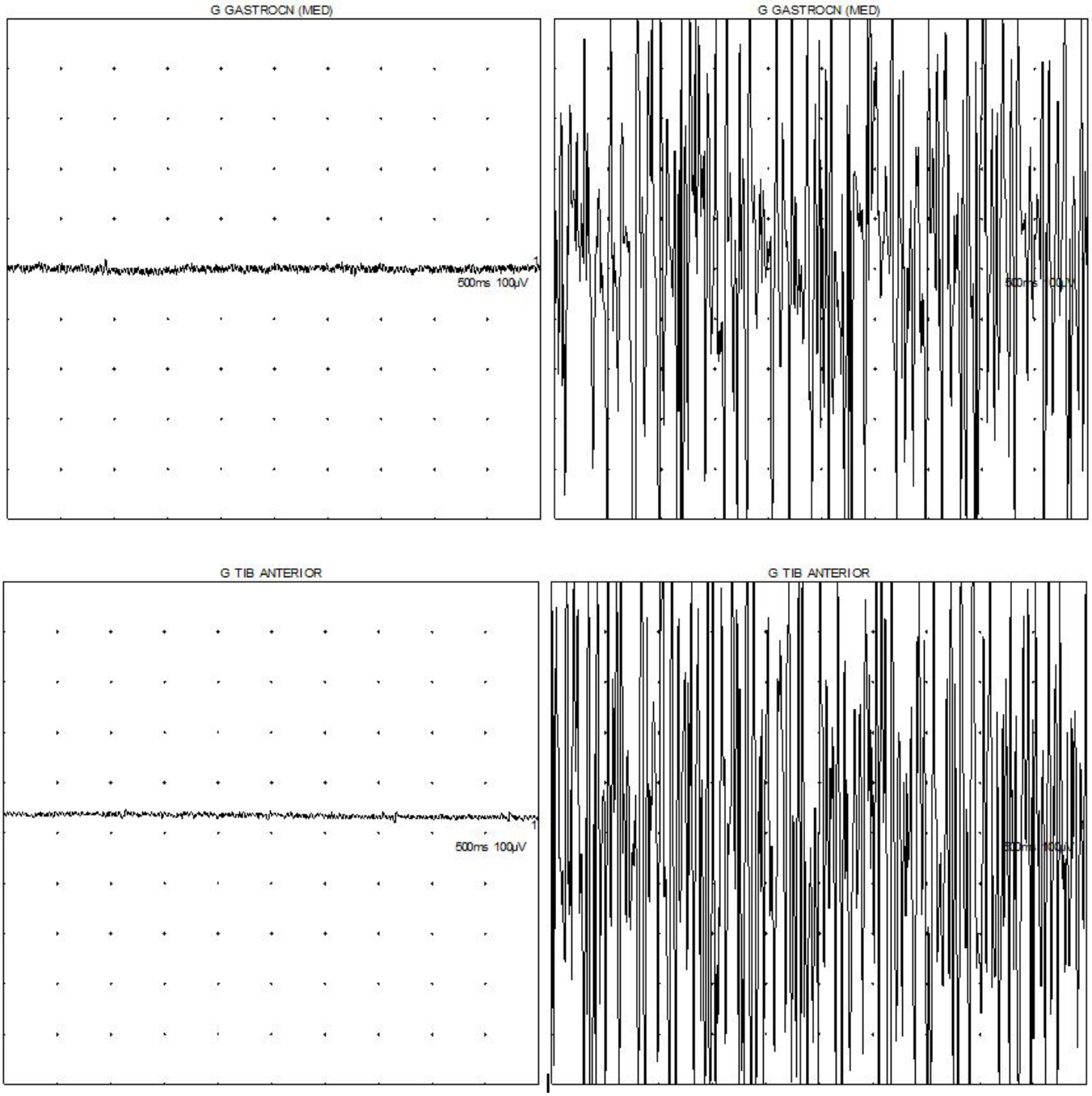


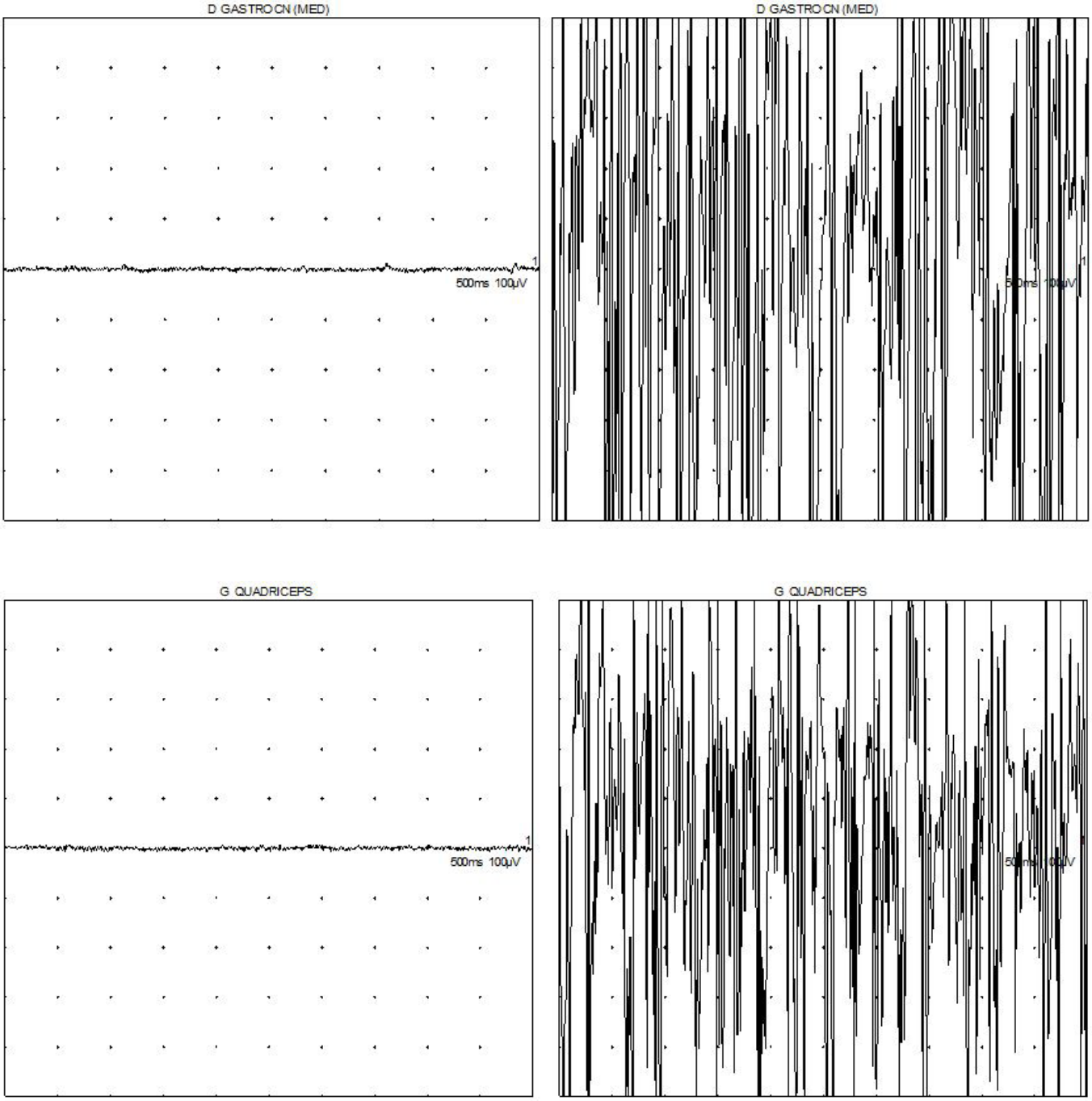
Wave F

Nerf	Lat M min	Lat F min
	ms	ms
G TIBIAL MALLEOLUS - DISTAL	6,25	65,45
G FEMORAL - DISTAL	4,60	77,95
D TIBIAL MALLEOLUS - DISTAL	7,75	65,10
D FEMORAL - DISTAL	4,65	63,60



EMG needle


G GASTROCN (MED)
500ms 100µV
G GASTROCN (MED)
G TIB ANTERIOR
500ms 100µV
G TIB ANTERIOR


D GASTROCN (MED)
500ms 100µV
D GASTROCN (MED)
G QUADRICEPS
500ms 100µV
G QUADRICEPS

Interpretation

Nerve conduction

• **Sensitive parameters**: normal

• **Motor parameters:** decrease in the amplitude of the left SPI, lengthening of F-wave latencies in the lower limbs

Detection

• Rest: absence of spontaneous activity

• Effort: normal interference plot for the effort provided.

Conclusion

ENMG in favor of an early motor poly neuropathy, proximo distal more myelinic, symmetrical of the lower limbs.

Discussion

Vitamin D, a neurotrophic molecule, is a potent inhibitor of mitosis and a promoter of differentiation in many cells. The receptor for this steroid is expressed in both neurons and glial cells, including Schwann cells (Cornet et al, 1998). It is now well established that vitamin D stimulates the expression of neurotrophins (Cornet et al. 1998 and increases the outgrowth of neurites, when added to cultured hippocampal cells (Brown et al. 2003). Therefore, it can be postulated that the increased axogenesis observed in the current study is due to an increased expression of neurotrophins. However, vitamin D-dependent pathways could also be involved in axonal regeneration. Hence vitamin D deficiency. Results in demyeliation or axonal damage Clinical diagnosis is based on clinical examination, electroneuromyography and nerve conduction study.

Blood and urine test to determine the cause.

The treatment is based on the etiological and symptomatic treatment [1-15].

Conclusion

Secondary poly neuropathy with vitamin D deficiency represents a clinical entity characterized by axonal damage secondary to the deficiency by its role on the nervous system.

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