Dystonic tremor in Systemic Lupus Erythematous and Antiphospholipid syndrome

M. Trajkova Petkovska[1] , E. Simeonovska Joveva[2] , T. Voloshyn[3] , S. Petrovski[3] , M. Stojanovska[4] , G. Hristovska[5] ;

[1]Neurology Department, Clinical Hospital-Shtip,Shtip, North Macedonia, [2]Faculty of Medical Sciences, University of Goce Delcev, Shtip, North Macedonia, [3]International Clinic Of rehabilitation, Ukraine, Faculty of Medical Sciences, [4]University of Goce Delcev, Shtip, North Macedonia, [5]Neurology Department, General City Hospital 8th of September, Skopje, North Macedonia, [6]Neurology Department, General City Hospital 8th of September, Skopje, North Macedonia

Introduction: In Systemic Lupus Erythematosus (SLE) and Antiphospholipid Syndrome, dystonia and dystonic tremor are infrequently reported but can stem from diverse neurological complications. In this paper we describe a case of a 65-year-old retired chemistry teacher with a decade-long history of lupus and hematological manifestations, who reported a progressively worsening tremor following an SLE exacerbation.

Methods: Extensive laboratory testing, neurological follow up, neuroimaging and EMG were done.

Results: Laboratory tests indicated abnormalities in hematological and biochemical parameters, and autoimmune markers such as positive antinuclear antibodies (ANA) and anti double-stranded DNA (anti dsDNA). Neurological examination revealed exssesive finger flexion, predominantly on the left hand, left forearm pronation, bilateral tremors, predominantly left-sided, along with hyporeflexia.

Neuroimaging showed widespread cortical atrophy, ventricular enlargement, vasculopathic changes in the basal ganglia, and encephalopathic alterations. EMG showed co-contracting electromyographic bursts in his left forearm.

Routine laboratory tests	**Autoantibody and other tests**
• RBC- 3.30…3.07…4.04(4.20-5.50 10*12L); HGB- 96…89…122(120-180g/L); HCT-0.275…0.246…0.357(0.37-0.54rv); WBC-2.8…4.0…7.2(4.00-9.00 10*9L); Lymph-0.4…0.3…1.2(0.5-5.0 10*9L); PLT-75...180…200(10*9/L); • Urea-6.2…5.6…6.1mmol/l; Creatinin-99…102…75umol/l; • Na =134…136…144 mmol/l; K =4.75…3.65…3.80 mmol/l; Ca = 1.88…1.90…2.15mmol/l; Fe(se) =2.7…4.2…8.6 umol/l; TIBS= 24.9…20.6…36.4 (46-70) umol/l. • Liver function tests- AST =50 U/L; ALT =9 U/L; gamaGT =25 U/L; • CRP= 22.19…17…0.92mg/l; • Serum albumin- 26…26…32(35-50g/l) • IgG=19…19.9…11.5 (7.0-16) g/l; IgA=4.0…4.3…2.4 (0.7-4.0) g/l; IgM=1.86…1.77…1.15 (0.4-2.3) g/l; • Hemostasis -**prolonged APTT; increased D-dimer 1550…1150…920** (<500)	• Antinuclear antibodies: **ANA positive;** • Antibodies to double stranded DNA**: Anti dsDNA positive;** • **Antiphospholipid antibodies (APL): Anticardiolipin and anti beta 2GP1 antibodies ---Positive** • Rheumatoid factor: Rh f negative; • Complement levels: **C3=0.37…0.43…0.56(0.8-1.4)g/l; C4=0.16…0.14…0.13(0.2-0.5)g/l;** • Other antibodies: **anti SSA positive; anti SSB negative; anti DNP positive; ANCA negative; anti U1 RNP positive; anti histone – positive;** • Infection markers for viruses CMV, EBV, Hepatitis B Hepatitis C, HIV> all negative;

*Figure 1/ *Lab analyses for the past 3 months.*

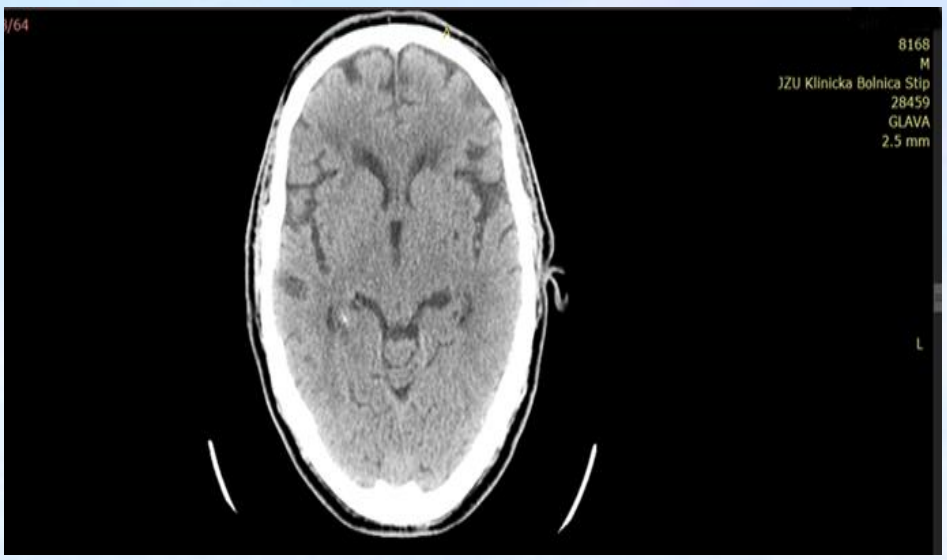

Figure 2/ CT showing widespread cortical atrophy, ventricular enlargement, vasculopathic changes in the basal ganglia, and encephalopathic alterations

Conclusion:

In SLE, various movement disorders, including tremors and dystonic tremors have been described. Antiphospholipid syndrome (APS), often associated with SLE, may contribute to neurologic manifestations through immune-mediated mechanisms leading to thrombosis.

The complex multisystem nature of SLE and the overlapping features with APS present challenges in understanding their distinct or interconnected pathophysiologies. Treatment options for movement disorders in the context of APS and SLE include immunotherapy, anticoagulation, antiplatelet agents, and symptomatic management based on the specific type of movement disorder. This case highlights the need for a comprehensive approach in addressing neurological manifestations in the context of autoimmune disorders.