中文題目: 結核性腦膜炎誘發次發性抗磷脂症候群

英文題目: Tuberculous meningitis induced secondary antiphospholid syndrome

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Introduction

Antiphospholipid syndrome(APS) has been divided into primary and secondary APS. Secondary APS is often associated with systemic lupus erythematosus and less frequently with infections, drugs and malignancy. We reported a 69-year-old health man presented with weakness of bilateral lower limbs for one day. Cauda equina syndrome and Guillain barre syndrome were excluded and positive cerebrospinal fluid(CSF) smears for acid-fast staining made the diagnosis of tuberculous meningitis(TBM). On the 15th day after onset of meningitis, diffuse petechiae developed on the bilateral lower legs and APS was diagnosed based on the presence of antiphospholipid antibody and thromboembolic event.

Case Presentation

A 69-year-old male presented with weakness of bilateral lower limbs for one day. He was otherwise well, had no significant past medical history, and was not taking any medication. Physical examination showed only a flicker of contraction in bilateral extensor hallucis longus (EHL), extensor digitorum longus (EDL), tibialis anterior (TA) muscles, flexor hallucis longus (FHL), flexor digitorum longus (FDL), and tibialis posterior (TP) muscles. Quadriceps power was grade 2 (MRC grading). Muscles around the left hip had full power. There was sensory loss over L5 and S1 dermatomes on the bilateral sides and he loss anal tone. Bilateral knee jerk was absent. He received Foley catheterization due to urinary incontinence. The presence of bilateral lower extremity weakness and bladder changes in function had raised suspicion for cauda equine syndrome. A lumbar spine magnetic resonance imaging was performed and there was no compressed nerve root. He had received lumbar puncture and analysis of CSF showed total nucleocyte count: 80 mm^3 with lymphocyte predominant (64%). Guillain Barre syndrome was excluded by normal CSF protein level (7 mg/dL). Aseptic meningitis was suspected and he was treated with intravenous acyclovir 500mg every eight hours and dexamethasone 5 mg every twelve hours. However, weakness of bilateral lower legs persisted. Two days later, cerebrospinal fluid(CSF) smears for acid-fast staining was positive and combination

anti-tuberculosis therapy with rifampicin 600mg, isoniazid 400mg, pyrazinamide 1250mg, and ethambutol 1600 mg had commenced. His muscle power and sensory level were improved gradually after anti-tuberculosis therapy.

On the 15th day after onset of meningitis, diffuse petechiae developed on the bilateral lower legs (predominant at left lower leg, Figure 1) and he suffered from chest tightness and painful swelling of left lower legs. Technetium-99m perfusion scan demonstrated irregular filling of the column, retention of radioactivity on the delayed images of the left lower leg and contrast enhanced chest computed tomography showed filling defects of right pulmonary trunk (Figure 2, red arrow). Laboratory investigation revealed positive for β 2-glycoprotein I IgG, anti-Cardiolipin IgG, and lupus anticoagulant antibody. High titer of antiphospholipid antibody, cutaneous manifestation, and pulmonary embolism established the diagnosis of antiphospholipid syndrome. The patient received low molecular weight heparin bridging therapy as interrupting the oral anticoagulation. He discharged on the 35th day with full recovery of muscle power and kept on medication with anti-tuberculosis therapy and warfarin. He remained well and regular clinical follow-up was conducted for 24 months without further thromboembolic event.

Conclusion

Antiphospholipid syndrome (APS) is a systemic autoimmune disease with persistent elevation of antiphospholipid (aPL) antibodies that can result in recurrent thromboembolic events, and pregnancy-related morbidity with recurrent fetal losses[1] which can be classified into 2 groups: primary and secondary. The common precipitating factors for secondary APS include infections (respiratory, skin, urinary tract, and sepsis), surgical procedures, malignancy, lupus flares, sudden anticoagulation withdrawal, oral contraceptives and obstetric complications. The pathogenesis of APS remains unclear, and environmental triggers may play a crucial role. Molecular mimicry with shared genetic epitopes with infectious agents has been proposed as a possible mechanism.[2] Previous studies suggested that infection may lead to the development of transiently elevated non-thrombogenic aPL antibodies lacking anti-b2 glycoprotein-I (anti-b2 GPI) activity. In a systematic literature review, development of antiphospholipid antibodies with all traditional manifestations of antiphospholipid syndrome were observed after variety of infections, most frequently after chronic viral infections with Human immunodeficiency and Hepatitis C[3] and

tuberculous meningitis induced APS was never reported in the literature. To our knowledge, this is the first case of tuberculous meningitis-induced APS and the case highlight that tuberculous meningitis can be a possible cause of secondary APS.

References

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Figure 1

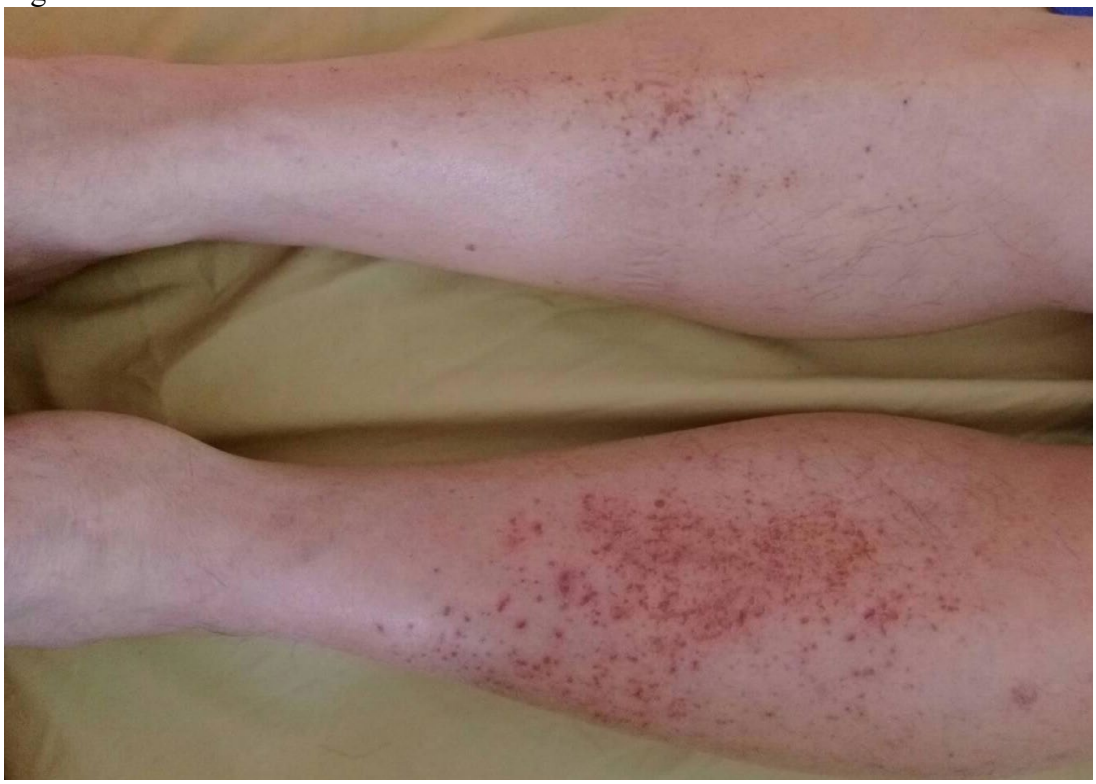

Figure 2