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CASE REPORT

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Transient global amnesia in a patient with high and persistent levels of antiphospholipid antibodies

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Abstract Cerebrovascular disease is one of the most common symptoms associated with anticardiolipin antibodies (ACA) and lupus anticoagulant (LA), usually in the form of ischemic stroke. However, many other neurologic disorders have been described in patients with antiphospholipid syndrome or ACA. So far, the precise relation between the presence of antibodies and the development of the disease in many of these cases remain unknown. Transient global amnesia (TGA) is an infrequent neurologic disturbance whose precise pathophysiology is not known. It is characterized by a sudden inability to acquire new information, usually lasting no more than 12 h, and it is not accompanied by any other focal neurological signs or symptoms. We report a patient with TGA with persistent and high levels of ACA and LA and suggest that in patients with TGA, investigation of the possible presence of ACA and/or LA may be warranted because a higher prevalence of TGA in the patients with antiphospholipidic syndrome with respect to the general population may lead to further insights into pathogenesis of neurologic disease associated with antiphospholipidic antibodies.

Keywords Antiphospholipid antibodies · Lupus anticoagulant · Transient global amnesia

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Introduction

Transient global amnesia (TGA) is an infrequent neurologic disturbance whose precise pathophysiology is not known. It is characterized by a sudden inability to acquire new information, usually lasting no more than 12 h, and it is not accompanied by any other focal neurological signs or symptoms [1]. Antiphospholipid syndrome (APS) is a disorder characterized by recurrent venous or arterial thrombosis and/or fetal losses in the presence of the lupus anticoagulant (LA) and/or moderate to high positive anticardiolipin test [2]. According to the criteria set out in Sapporo, the only neurological manifestation diagnostic of APS is ischemic stroke [3]. Nevertheless, over the past years, other neurological manifestations have been repeatedly reported in relation to the presence of antiphospholipid antibodies. One of these is TGA. We will describe a case of TGA in a patient with persistent and high titers of anticardiolipin antibodies (ACA).

Case report

A healthy 52-year-old man was admitted to the emergency department of our hospital in April, 2001 due to a temporary impairment of memory. His family observed that he was forgetful of the previous evening activities. He kept asking the same questions although they had been answered and could not remember events minutes after their occurrence. There were no signs of possible consciousness disorders or loss of self-identity; his speech was also coherent. There was no history of drug abuse, although he smoked ten cigarettes a day, intoxication, or head trauma. The physical and neurological examinations were otherwise normal. All symptoms disappeared after a period of 6 h. The biochemical investigations, ECG, chest X-rays, Doppler study of the carotid arteries, computed tomography (CT), magnetic resonance (MR), and single photon emission computed tomography (SPECT) of the brain were normal.

Antinuclear antibody (ANA) test was negative. ACA showed high positive levels (90 GPL), and the LA came out as positive. The patient was started on aspirin, and his 4-year follow-up has been an ordinary healthy one. ACA and LA have remained positive all this time.

Discussion

Pathophysiology of TGA has remained obscure for 40 years since the first description of this clinical entity. Migraines [4], seizures [5], tumors [6], and transient ischemic attacks (TIA) [7] have all been suggested as possible causes. Antiphospholipid antibodies have been reported in some patients with TGA [8, 9]. In the case of Montalban et al. [8], the patient presented amaurosis fugax, other clinical manifestation associated with the presence of antiphospholipid antibodies; nevertheless, CT scan of the brain was normal, and there was no evidence of thrombosis. In the cohort of Cervera et al. [9], seven patients (0,7%) suffered TGA during the course of their disease, but it is not mentioned whether there was any evidence of cerebral thrombosis in them. These figures are higher than waited by simple chance. The presence of ACA or LA in patients with TGA probably supports the original thought of thrombosis as the pathophysiology mechanism; although nowadays, the idea of TGA as a transient ischemic stroke seems to be fading as laboratory investigations (CT, ultrasound, and angiography) do not show relevant abnormalities in these patients [10], as it happened in our case. Furthermore, these patients do not have any more vascular risk factors than control population and have a better prognosis than patients with TIA [7, 11]. However, the latest studies with positron emission tomography (PET) show low metabolism in local areas related to memory [12]. The phenomenon of spreading depression of cortical activity described by Leao [13] has been suggested as a possible pathogenic mechanism and similar to that of migraine [14]. Nevertheless, in patients with antiphospholipidic antibodies and neurologic symptoms, the possibility of a double etiopathogenesis—thrombotic mechanism on the one hand and a direct stroke on cerebral structures by crossreactivities of the antibodies on the other—is becoming a more reasonable explanation [15]. In experimental models, intracerebroventricular administration of IgG from APS patients in mice impaired short-term memory [16]. Therefore, TGA in patients with ACA may be the outcome of the interaction of these antibodies with brain tissue or a result of a thrombotic injury. Our patient did not show any other clinical manifestations of APS nor ischemic evidence in image studies. Although it can be possible that TGA, persistent high ACA and LA are fortuitously associated, we believe it is advisable to perform ACA and LA in patients with TGA. Doing so, we might come to know better the intrinsic relation between the two entities. Therefore, in patients with APG and ACA and/or LA, we recommend to maintain antiaggregation therapy, until the exact pathogenic mechanism is revealed. With antiaggregation therapy, our patient has been free of symptoms for 4 years in spite of persistent LA and high levels of ACA.

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