

Cerebral Infarction as the Sole Manifestation of AIDS

- A Case Report -

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= 국문 초록 =

뇌경색으로 발현된 AIDS - 증례보고

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김용재 · 정지향 · 조은경 · 오지영 · 채승희 · 박기덕 · 최경규

후천성 면역 결핍증 환자의 다수에서 신경계의 침범에 의한 증상이 발현되며, 뇌졸중 특히 허혈성 뇌경색의 발생은 드물지만 비교적 잘 알려져 있다. 그러나 많은 경우에 뇌경색은 중추 신경계 감염이나 종양, 혈액학적 이상과 동반되어 발현되며, 초기 증상으로 나타나는 경우는 매우 드물게 알려져 있다. 저자들은 45세 남자 환자에서 허혈성 뇌경색으로 처음 발현된 후천성 면역 결핍증 1예를 경험하였기에 이를 문헌 고찰과 함께 보고하는 바이다.

KEY WORDS : AIDS · Cerebral infarction · Young-age stroke.

Introduction

Neurologic complication is common with human immunodeficiency virus type 1(HIV), the etiologic agent of the acquired immunodeficiency syndrome (AIDS). 30 to 40% of patients with AIDS will have clinical neurological dysfunction¹⁾. The most common neurologic syndromes in AIDS are AIDS dementia complex, peripheral neuropathy, global cerebral dysfunction due to fungal, viral, or mycobacterial infection and primary CNS lymphoma²⁾. The presence of cerebrovascular disease has also been reported. In these cases, stroke was associated with opportunistic infections, HIV-related vasculitis, thrombocytopenia, or nonbacterial thrombotic endocarditis

²⁾. However, the presence of stroke as the first manifestations of HIV-infected patient has been seldom reported³⁾, and not yet in Korea as far as we do know. We would like to describe a young patient whose sole manifestation of HIV infection was an ischemic stroke.

Case

A 45-year-old previously healthy unmarried man suddenly developed left sided weakness and slurred speech. His medical history was unremarkable. He had no history of hypertension, diabetes, cardiac disease, or migraine. He smoked under 10 cigarettes daily, and drunk some alcohol. General and neurological examination revealed mild left facial paresis, dy-

sarthria, dysphagia and left hemiparesis graded 4/5.

Laboratory studies, including complete blood count, automated serum chemistries, prothrombin time and activated partial thromboplastin time(aPTT), anti-thrombin III, antinuclear antibodies, anti-DNA assay, rheumatoid factor, Westergren erythrocyte sedimentation rate, antineutrophilic cytoplasmic antibody(ANCA) were all normal or negative. Anticardiolipin antibodies(IgG aCL ELISA) were 82 units GPL. Repeated normal aPTT determination ruled out the presence of lupus anticoagulants. VDRL serology was positive. Cerebrospinal fluid(CSF) was acellular and other studies of CSF including VDRL, india-ink test, cultures for bacterial, fungal, acid-fast bacilli and viral pathogens were normal or negatives. Serology for HIV (Western blot) was positive for serum. He had no history of intravenous drug abuse, transfusion of blood or blood product, homosexual contact. Careful physical examination and medical history – such as weight loss, chronic diarrhea, generalized lymphadenopathy, oral thrush and so forth – revealed no more information. Total lymphocyte count was $1.3 \times 10^9/L$ and CD4 lymphocyte cell count was $5.7 \times 10^{11}/L$. Cardiac investigations(electrocardiography, chest X-ray film) were normal. MRI performed on a 1.5-T unit demonstrated variable sized high signal intensities in right basal ganglia, thalamus and both periven-

tricular white matter on T2-weighted image, which is low signal intensities on T1-weighted image(Fig. 1). Carotid sonography was normal.

The patient had a progressive clinical course, but refused any medical treatment and evaluation. Performing further investigations, such as cerebral angiography and echocardiogram, were impossible. One month later, he was found dead at his home with clinical progression.

Discussion

Stroke, especially ischemic infarct, is a well-recognized but still rare complication of HIV infection. In limited clinical datas of AIDS patients, ischemic stroke has been noted 0.5 to 2.9% of patients^{4,7}. Since the annual incidence of cerebral infarction in the general population ages 35–45years is only 0.025%⁸, HIV infection confer an increased risk for cerebral infarction. However, whether or not the increased risk results from direct HIV infection or other epidemiologic factors such as immunosuppression is not fully understood.

Most AIDS patients with stroke-like syndromes had CNS infection or CNS tumor. Cerebral infarcts in AIDS were generally due to nonbacterial thrombotic endocarditis or concomitant opportunistic CNS

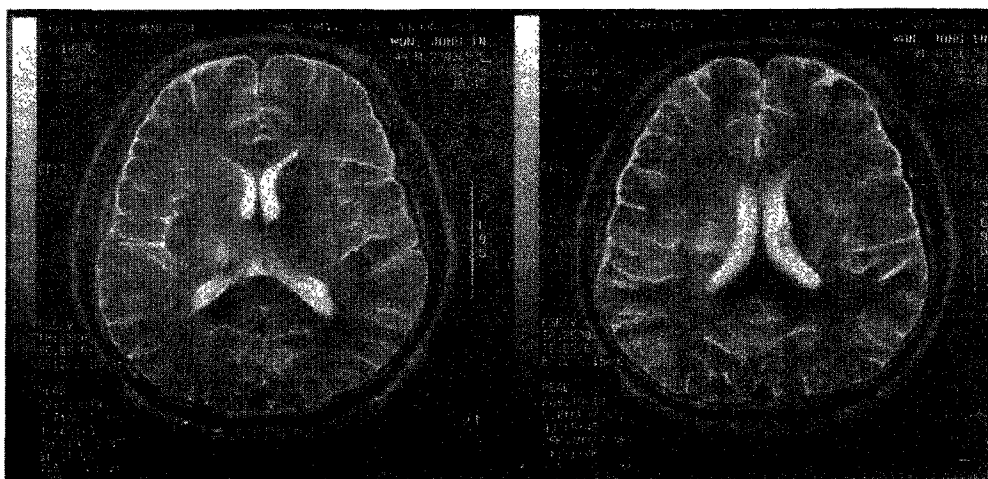


Fig. 1. MRI performed on a 1.5-T unit demonstrated variable sized high signal intensities in right basal ganglia, thalamus and both periventricular white matter on T2-weighted image.

infection²⁾. Hematologic abnormalities and cerebral vasculitis, particularly associated with herpes zoster or syphilitic infection, were related to thrombotic stroke in only a few reported cases^{4,7)}. Some suggest that vasculitis may be an important etiology in case without opportunistic CNS infection^{2,4)}. One possible mechanism is that vasculitis may be related to increased deposition of circulating immune complex⁴⁾. Another explanation is that HIV may have a direct toxic effect on the vascular endothelium, possibly immune mediated^{4,9)}. Patients with HIV infection may develop antiphospholipid antibodies, and this linking may be an explanation for stroke¹⁰⁾. Recent study suggests that the increased risk of cerebral infarctions associated with meningitis and protein S deficiency is higher in HIV-infected patients than in sero-negative patients¹¹⁾.

In 1992, Naranjo et al reported a young patient whose first and only manifestation was an ischemic stroke³⁾. They proposed the presence of anticardiolipin antibodies as a possible cause.

In this case, he had no conventional stroke risk factors. Hematologic abnormalities, opportunistic infection and cardiac cause could be ruled out by laboratory studies. HIV-related vasculitis seems improbable because of acellular CSF. The presence of anticardiolipin antibody in the setting of HIV infection remains as a risk factor for ischemic stroke, as above case.

Young patients with stroke constitute a heterogeneous group. It is still doubtful to include HIV infection as a diagnostic battery, especially in patients without any risk for AIDS such as drug abuse. Though the cause of ischemic infarct is not usually determined, as our case, HIV infection must be included in the differential diagnosis young persons who have stroke of unknown cause even after th-

rough studies.

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