

AIDS Dementia Complex as a First Presentation of AIDS – A Case Report from University Hospital, Kuala Lumpur

S Edwards, MRCP*, I Rokiah, MRCP**, *King's Hospital, London SE5 9RS, **Department of Medicine, University Hospital, 59100 Kuala Lumpur

Summary

We report the case of a man whose first HIV presentation was AIDS dementia complex (ADC). This paper will outline the clinical and pathological features and discuss investigation, management and prognosis.

Key Words: HIV, AIDS, AIDS dementia complex

Introduction

The World Health Organisation (WHO) estimates that there are over 16 million people worldwide infected with the Human Immunodeficiency Virus (HIV) with 2.5 million in South and Southeast Asia. It is predicted that by the year 2000 there will have been in excess of 10 million people infected with HIV in Southeast Asia alone.

The prevalence of HIV infection in Malaysia has risen rapidly from 3.7 per 100,000 population in 1990 to 13 per 100,000 in 1992. It was estimated that 9,000 people were infected in 1993 and this has increased to 15,110 by the end of February 1996.

Case History

A 36-year-old man was brought into hospital by his family. It was difficult for him to give a history and so information was obtained from the family.

They gave a 2 months history of fever, night sweats, weight loss and mild diarrhoea. His personality had changed from a bright, sociable person to an unemotional withdrawn character. He had stopped working and his family felt he could no longer look

after himself so had become his primary carers. He did not speak voluntarily but, when asked, recalled visiting Thailand and having sexual intercourse with female prostitutes. He denied injecting drugs.

On examination he was cachectic, febrile and had oral candidiasis. He had a blank, staring expression. Mental state examination showed him to be orientated with severe impairment of recall and short term memory. His thought, speech and movements were all slow. He was globally weak but there was no localising neurological signs and his reflexes were normal. He was clumsy and had an unsteady gait but there were no cerebellar signs.

A computerised tomograph with enhancement of the brain was normal. The cerebrospinal fluid (CSF) pressure was 16 cm H₂O. There were no cells and the CSF glucose and serum levels were within normal limits. The CSF protein level was raised (48 gm/100mls). CSF and serum was negative for cryptococcal antigen. Culture for mycobacteria, bacteria and fungi were negative. Electroencephalogram (EEG) showed non-specific slow wave activity. Syphilis serology was negative. Chest radiography, arterial blood gases, culture of sputum, blood, urine and faeces, electrolytes and liver

CASE REPORTS

function tests were all within normal limits. He had a mild normochromic, normocytic anaemia. Induced sputum samples were negative for *Pneumocystis carinii*. An HIV-1 Antibody (ELISA) test was performed which was positive. The CD4 T lymphocyte count was 11/mm³. A clinical diagnosis of AIDS dementia complex (ADC) was made.

Discussion

AIDS dementia complex was first described in 1986 and was included in the Centers for Disease Control Classification in 1987. It is characterised by the pathological appearance of a multinucleated-cell encephalitis. Myelin pallor is also seen but its correlation with ADC is not as well established. The pathogenesis is believed to be due to a direct effect of the HIV infecting cells which have a CD4 receptor within the central nervous system (CNS), i.e. mononuclear and multinucleated macrophages and microglia. These cells are thought to release cytokines and viral products which damage neighbouring neuroectodermal cells leading to progressive neuronal loss. The incidence of ADC has declined from 36% to 2% since the introduction of zidovudine¹ which is thought to act through inhibiting viral replication. The cognitive functions most commonly affected include psychomotor control, speed of information processing, memory and language impairment. It is graded from mild to severe and then end stage². Mild involvement is defined as someone with detectable evidence of intellectual and motor impairment but able to perform all bar the more complex daily tasks and walk unaided. In end stage the person is in an almost vegetative state, usually mute and paraparetic, with urinary and faecal incontinence requiring aid to mobilise. The latter has a very poor prognosis with an average survival time of 1-3 months.

The CSF findings may reveal a raised protein, mononuclear pleocytosis, oligoclonal bands and intrathecal IgG synthesis. CSF p24 antigen levels correlate well with severity. Increased levels of beta-2-microglobulin and neopterin are also seen in ADC, but also occur in primary CNS lymphoma and opportunistic infections. Neuroimaging is important to exclude alternative pathology. The findings of cerebral atrophy and changes in the white matter and

subcortical structures support the diagnosis of ADC in conjunction with the clinical findings (see Table I). Cerebral atrophy is more common and more severe in HIV infected individuals than in controls³.

A wide range of clinical conditions can mimic and/or worsen the clinical picture such as infection (toxoplasma encephalitis, CMV), progressive multifocal leucoencephalopathy (PML), lymphomas, metabolic encephalopathies, drugs and depression. The mainstay of treatment is the use of zidovudine which is thought to act by reducing viral load in the CNS and thus slowing the progression of ADC. Treatment and prevention of co-existing pathology is important. Nursing care may be needed which might involve the family who will require support in coming to terms with the diagnosis and adopting the caring role.

This case demonstrates the importance of considering HIV as an underlying pathology in organic brain disease and to our knowledge is the first reported case of ADC in Malaysia.

Table I
Clinical presentation of ADC*

	Early	Late
Symptoms		
Memory loss	++++	++++
Behavioural change	+	+++
Depressive symptoms	+	+++
Apathy	+	+++
Delirium	+	++
Motor complaints	++	++
Signs		
Normal examination	+++	+
Abnormal mental state	+++	++++
Psychomotor slowing	+	+++
Hyperreflexia	+	+++
Hypertonia	+	++
Impaired rapid eye movements	+	++
Myelopathy	+	+++

+ Denotes frequency of occurrence: Always (++++), Common (+++), Not so common (++), Uncommon (+).

* Adapted from McArthur JC. Neurological manifestations of AIDS. *Medicine* 1987;66 : 407-37

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