

Intracranial Toxoplasmosis In Acquired Immunodeficiency Syndrome:

FERRUH GEZEN, ALPER BAYSEFER, K. MELİH AKAY, ZAFER ÇANAKCI, NACİ SEBER

Department of Neurosurgery, Gülhane Military Medical School, Etlik - Ankara / Türkiye

Abstract : A young male patient with symptoms of increased Intra Cranial Pressure (ICP) is reported. Contrast enhanced computed tomography (CT) revealed multiple intracranial masses evaluated as metastatic. During preparations for operation, the anti-human immunodeficiency virus (Anti-HIV) test was found to be positive. We believed that the lesions were toxoplasmosis and started medical treatment which relieved the symptoms and the patient recovered. A CT control on the 15th day of treatment showed that

the lesions had disappeared. As a result we consider that it is advisable for both, neurosurgeons and patients, during evaluation of patients with multiple intracranial masses, to consider AIDS-related infective masses, especially toxoplasmosis, in differential diagnosis.

Key Words : Intracranial mass lesion, AIDS, Intracranial toxoplasmosis

INTRODUCTION

Acquired Immune Deficiency Syndrome (AIDS) is due to an infection by the human immunodeficiency virus (HIV), which has a particular tropism for the membrane antigen CD 4 (4). This receptor is contained in T-Helper lymphocytes which are destroyed causing loss of cell-mediated immunity and favouring the occurrence of opportunistic infections and non-Hodgkin lymphomas (11).

Patients with AIDS belong to a variety of risk groups such as homosexual or bisexual individuals, intravenous drug users, patients receiving frequent blood transfusions, and Haitians, but cases have been described where none of these risk factors could be identified (6).

Since its recognition, in the world and the original case descriptions in 1981, thousands of individuals have suffered and died of AIDS (2,9). In recent years a few cases of AIDS have been described in Turkey.

Neurological signs and symptoms occur in 30 % to 75 % cases, varying from weakness and paresthesia

to progressive dementia, seizures, focal deficits, and hallucinations (8,14). Some opportunistic pathogens involving the Central nervous system (CNS), including toxoplasma gondii, cryptococcus neoformans, papovavirus, candida albicans, cytomegalovirus, mycobacterium tuberculosis, and aspergillus fumigatus have been described (1,8,14,16,17). Primary CNS lymphoma (15), secondary involvement of the CNS by systemic lymphoma (14), plasmocytoma, and Kaposi's sarcoma (10) are the usual intracranial neoplasms observed in AIDS.

We report the case of intracranial toxoplasmosis with AIDS.

CASE REPORT

This 26-year-old man was attended to our hospital with a primary complaint of headache and confusion. Systemic and neurologic examination showed no abnormality except bilateral papilloedema. Computed Tomography (CT) after intravenous administration of contrast medium demonstrates multiple nodular enhancing lesions in the left frontal and left cerebellar areas (Figs 1 and 2).

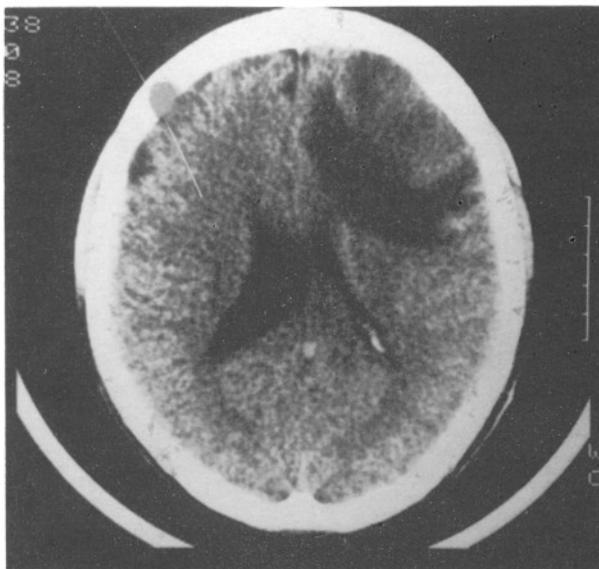


Fig. 1 : Unenhanced CT-scan demonstrated an isodense mass lesion and surrounding oedema in the left frontal region.

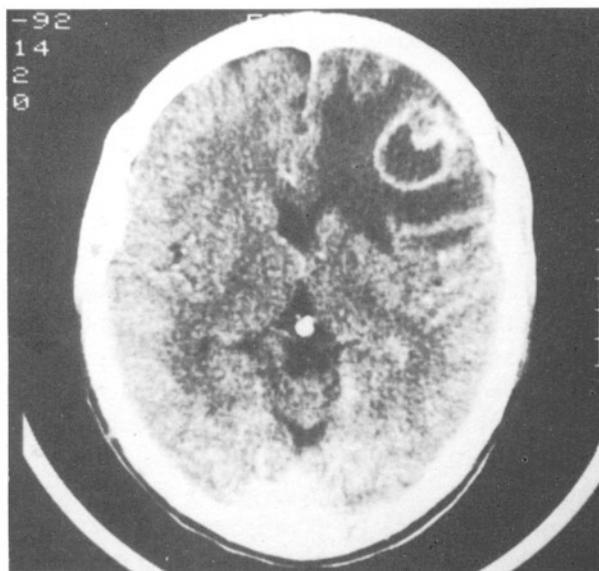


Fig. 2 : Unenhanced CT-scan demonstrated an isodense mass lesion and surrounding oedema in the left frontal region.

We considered this lesions metastatic, hospitalized and prepared for surgery. During the preparation for operation fever was noted and the patient did not respond to any drug therapy. At this stage anti-HIV test was found to be positive. In spite of a negative Sabin-Feldman test, we believed that the intracranial masses were toxoplasmosis and in view of this started anti-toxoplasma, anti-oedema and anti-epileptic drugs which relieved the symptoms. CT on the 15 th day

of therapy showed that the lesions had disappeared (Fig. 3), and patient was healthy after two weeks.

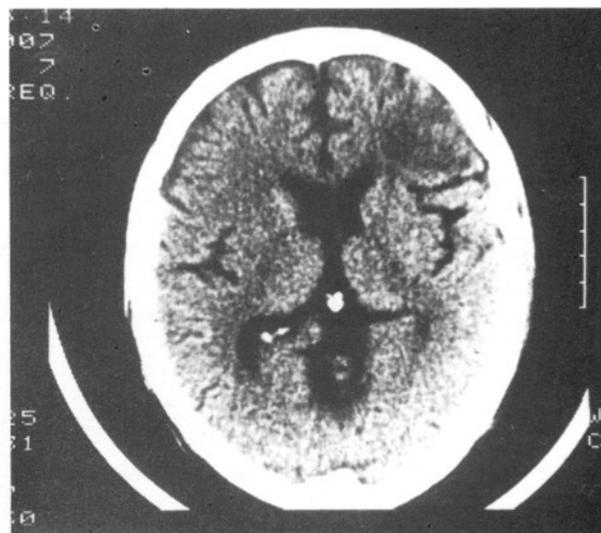


Fig. 3 : CT scan after anti-toxoplasma therapy shows bilaterally mild fronto-temporal atrophy and ventricular enlargement. The mass lesion and surrounding oedema disappeared after medical treatment.

DISCUSSION

The protozoa *Toxoplasma Gondii* is present as a non-pathogen in approximately half of the population. In the immuno-compromised host, the organism may become pathogenic and an individual with AIDS may develop infective intracranial lesions, accounting for the majority of focal lesions of the CNS in AIDS (5). Cerebral involvement by *Toxoplasma Gondii* has been found to be the most common cause of focal brain lesions by many authors (12,13). Generalized lymphadenopathy is the most common clinical manifestation of disease. Signs of low grade meningo-encephalitis often appear when the CNS involved.

Toxoplasmosis does not present a diagnostic problem when the organism can be identified or when the presence of coagulative necrosis, resembling an ischaemic area, is strongly suggestive of this parasitosis (7). However, lesions are sometimes atypical, diffuse, non-necrotic and pseudo-encephalitic, with microglial nodules, astrocytic gliosis and proliferation of microglial cells. In this atypical cases and when the parasite cannot be detected in conventional histological sections, immunohistochemical techniques and electron microscopy have proven of considerable diagnostic value (3).