Increased Beta_2-microglobulin in CSF of multiple sclerosis

Sir: Increased cerebrospinal fluid (CSF) levels of beta_2-microglobulin (B_2m) have been found in a number of primary central nervous system (CNS) diseases as well as in neurological complications of systemic malignant diseases, and CNS infection. However, there are discrepancies in the values obtained by several authors for B_2m in CSF of multiple sclerosis patients. This may be due to the fact that these studies were performed in small series of patients and without taking into account whether they were in relapse or not. We felt, therefore, that the study of CSF B_2m in relation to clinical activity in multiple sclerosis would be of interest.

We studied 30 patients with clinically definite multiple sclerosis. They were divided into two groups: Group A comprised 14 patients in a stable phase of the disease. Group B included 16 patients who were studied during an acute exacerbation of multiple sclerosis, their sera and CSF having been withdrawn within 3 weeks from the onset of the attack. Control CSF and serum data were obtained from 16 age-matched patients who did not show signs of organic neurological disease and their CSF study was unremarkable. Serum and CSF B_2m was measured by means of an ELISA developed in our laboratory. No significant difference in serum B_2m was found between the two multiple sclerosis groups and controls, being 1-77 ± 0-19 mg/l for group A, 1-86 ± 0-18 mg/l for group B and 1-80 ± 0-12 mg/l for controls (mean ± standard error of the mean).

CSF biochemical parameters studied are shown in the table. CSF IgG, IgG index, and daily IgG synthesis and B_2m were found to be significantly higher in multiple sclerosis patients in relapse. The ratio CSF/serum albumin was, however, within normal limits, thus showing a normal blood-brain barrier function.

The origin of increased CSF B_2m in multiple sclerosis patients remains unclear. Higher B_2m values in CSF compared with serum would indicate an intrathecal production and was found in every patient of group B. Whether B_2m comes from tissue destruction or from T-cell activation is at present unknown. Nevertheless, it seems likely that CSF B_2m may be an index of multiple sclerosis activity.

JC ALVAREZ-CERMEÑO
LM VILLAR
G ROY
A FERREIRA
A BOOTELLO
A GIMENO
P GONZÁLEZ-PORQUÉ
Departments of Neurology and Immunology
Hospital Ramón Y Cajal,
Carretera de Colmenar Km 9100
Madrid 28034, Spain.

References

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Late onset adrenomyeloneuropathy

Sir: Adrenomyeloneuropathy is a disorder of lipid metabolism which results in the accumulation of long chain fatty acids. The accumulation and associated dysfunction is most marked in those cells which depend highly on lipid metabolism: adrenal cortex, gonads, cerebral cortex and myelin sheaths of peripheral nerves. The condition is thus characterised by the association of Addison's disease and hypogonadism, with progressive peripheral and central neurological disease, and is usually familial. Inheritance is X-linked, and expression is usually confined to males, but several variants have been described. The best recognised form of this condition is that which occurs in children (adrenoleukodystrophy, Addison-Schilder's disease), with rapidly progressive neurological damage resulting in death within the first 15 years of life. However, a family history is not invariably, and the condition may present later. In their review of 303 cases, Moser et al described only five patients who first developed neurological symptoms after age 21 years, and none with both Addison's disease and neurological signs who presented after 37 years of age.

In 1975 a 53 year old milkman was admitted to hospital with clinical and biochemical...
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