



Immunological aspects of bacterial nature neuroinfections.

¹A. Gavrylov, ²V. Kozko, ³O. Motlokhova

¹Dept. Infectious diseases, Kharkov State Medical University, ²Dept. Infectious diseases, Kharkov State Medical University, ³Dept. Infectious diseases, Kharkov State Medical University (Ukraine)

Introduction

The significant growth of bacterial and virus nature neuroinfections morbidity has been noticed in the whole world during the last years. These infections form more than half of all neurological diseases. This pathology has constant high level of morbidity and mortality with the development of severe brain lesion, that has fatal outcome in 8-26% cases during the last years in Ukraine. This tendency can be explained by the change of properties of circulating infectious agents and patients' body reactivity. These factors significantly influence the clinical course character. On one side, the antibiotic resistance of dominating microorganisms reduces the therapy efficiency. On the other side, the oppression of the immunological reactions doesn't allow to eliminate pathological gene from the patients' body. The aim of our research was to study the dynamics of indices of phagocytal reactions, cellular and humoral parts of immune system among patients with bacterial meningitis and meningoencephalitis of meningococcal and pneumococcal nature in dependence of etiology and severity grade of pathological process.

Material and Methods

The countable indices of cellular and humoral immune system parts has been determined in the clinical course (the main populations and subpopulations of T- and B-lymphocytes with the help of monoclonal antibodies to CD-structures membranes: CD3, CD4, CD8, CD86, CD72; also Ig A, G, M, circulating immune complexes, complement, phagocytal reactions).

Results

We have examined 94 patients with bacterial meningitis and meningoencephalitis of meningococcal (42,6%) and pneumococcal (57,4%) nature. Brain edema was observed in 59,6 % cases (sopor - in 58, 3%, I stage coma- in 22, 2%, II stage coma in 19, 5 % cases). Nervous agitation took place in 33, 3% patients. Moderate clinical course was observed in 30 (31, 9%) patients, severe clinical course in 52(55, 3%). Extremely clinical course with fatal outcome took place in 12 (12, 7%) patients (10 cases of pneumococcal and 2 cases of meningococcal nature).

Conclusion

Pneumococcal lesion of brain is characterized by the more severe clinical course. The level of consciousness lesion is one of the leading clinical symptoms of the patients' state severity and possible fatal outcome. Decreasing of adaptation mechanisms by means of significant oppression of T-cellular and humoral parts of immune system and indices of neutrophil phagocytosis activity reveal in patients with severe course of meningococcal and pneumococcal nature meningitis. The majority of immunogram indices achieve the normal level in patient with moderate clinical course in the period of early reconvalescence. But the authentically expressed immune status changes kept the severe clinical course raise a question of immunomodulators use necessity.

Keyword(s): bacterial meningitis, clinic, immunological changes

