P1260
Poster Session V
Immunology, vaccination and host defences

THE EVALUATION OF CYTOKINES CONCENTRATION (IL-4,IL-17,IL-23,IL-21) REPRESENTING CELLULAR AND HUMORAL IMMUNITY, IN PATIENTS WITH HERPES ZOSTER

J.M. Zajkowska[1], A. Moniuszko[1], A. Zajkowska[2], A. Garkowski[2], S. Grygorczuk[1], R. Swierzbinska[1], S. Pancewicz[1]

[1]Department of Infectious Diseases and Neuroinfections, Medical University in Bialystok, Bialystok, Poland ; [2]Students Scientific Society, Medical University in Bialystok, Bialystok, Poland

Objectives

Varicella zoster virus(VZV) induce two clinically different diseases, chickenpox and shingles-herpes zoster(HZ). The virus remains in a dormant state in dorsal root ganglion cells after chickenpox recovery and reactivates many years later.

Analysis of different zoster clinical manifestations frequency among admitted patients and the risk factors.

Determining the serum concentration of cytokines responsible for the cellular and humoral inflammatory processes induction in patients with HZ in comparison with healthy individuals.

Materials and methods:

A retrospective analysis of 45 medical records with the diagnosis of herpes zoster was conducted (clinical forms ,demographic data and the comorbid conditions, lesions healing).

23 patients, with no superinfection of the lesions observed, were included in the cytokines levels study. The control group was represented by 22 healthy volunteers. The cytokines levels were measured with the use of ELISA

Results:

Among the study group(n=45), female (55.6%). The age of patients ranged from 33 to 90 years. Factors occurring before the onset of herpes zoster were identified, such as type II diabetes, CMV infection, condition after bone marrow transplant. The most common lesions involved branches from C2-Th12 in 53% of cases. Particularly extensive shingles was observe in patient after bone marrow transplantation. Moreover, in one case there was a severe bacterial superinfection and consequently a gangrenous herpes zoster appeared. 20% was diagnosed with ocular herpes zoster, 17.8% had lesions located in the area of the facial nerve, and finally 8.9% had otic zoster with lesions in the ear canal, ear lobe and the adjacent area. Referring to the last two clinical manifestations, in two cases transitional peripheral facial palsy emerged.

Variable	n	n(-)	n(+)	AUC	SE	95% C.I.(AUC)	p (AUC=0,5)
IL- 17 serum	45	22	23	0,9752	0,0235	(0,929-1,021)	**0,0000**
IL- 4 serum	45	22	23	1,0000	0,0000	(1,000-1,000)	**0,0000**
IL-23 serum,	45	22	23	0,9845	0,0168	(0,952-1,017)	**0,0000**
IL-21 serum	45	22	23	0,9689	0,0321	(0,906-1,032)	**0,0000**

The obtained concentrations of measured cytokines (representing cellular and humoral immunity) for group 1 (HZ) and group 2 (control group), indicate a multiple increase in HZ group supported by the statistical analysis with ROC curves (tables,figures).

Conclusions:

1.Among study group the predominant risk factors were associated with age, diabetes or a previous bacterial infection.

2.To the reactivation of the virus, increased concentration cytokines responsible for cellular and humoral response was demonstrated.

3.Results support the hypothesis that lack sufficient concentration of of antibodies against VZV probably is mainly reason of herpes zoster appearance.

3.The demonstrated capacity of the immune system support recommendation to prevent herpes zoster through vaccination in the elderly with diabetes or at risk of recurrent bacterial infections.