ЯКІСТЬ ДОВКІЛЛЯ ТА ЗДОРОВ'Я НАСЕЛЕННЯ

SYSTEMIC AND LOCAL IMMUNITY IN PROSTATITIS SUFFERERS AND THE INFLUENCE OF ENVIRONMENT

Bayraktar V.M.
Odesa Mechnikov National University, Ukraine
virolviro6@gmail.com

The influence of environment includes changing of the climate, using herbicides in agricultural cultivation, pollution of air, water in estuaries, basin of rivers. All if it negatively affects to environment and in human body. It concerns of immune system, cellular and humoral immunity. Unfavorable conditions reduce functional possibilities of immune system for both links: cellular and humoral immunity. Frequently indices of total and local immunity is reduced, phagocytic activity is reduced. This can be determined with a test of immune system. Decrease of immune system parameters often accompanied by local penetration of opportunistic bacteria which causes of inflammatory process.

In our case, we did researcher for immune system: local and total immunity in prostatitis sufferers. Testing included cellular immunity: CD3+ (T-Lymphocytes), CD4+ (T-helpers), CD8+ (T-supressors), CD16+ (T-Killer EC cells), CD19+ (B-Lymphocytes). Humoral immunity presented to Immunoglobulins: A, G, M. In local immunity we tested expressed prostatic secterion (EPS). Together with immine tests we also isolated from different CP sufferers bacteria from EPS. Most of isolated bacteria were from following species: Enterobacteriacea: Escherichia coli, Proteus, Enterobacter, Citrobacter, Klebsiella, Enterococcus. Other group bacteria isolated from EPS of sufferers: Staphylococcus aureus, Streptococcus pyogenes, Pseudomonal aeruginosa. All this bacteria opportunistic, therefore they only in some condition infect the body especially when total and local immunity decrease. When phagocitic activity is weak phagocytes swallow bacteria but can not kill them. As a result phagocytosis can not be completed. That is why body need need in strong immune system and sufficient number of phagocytes only then pagocytosis be completed and phagocyte swallows and kill bacteria. It is result of complete phagocytosys and result of strong immune system.

Local immunity could be tested by expressed prostatic secretion (EPS). Testing in EPS of WBC, RBC, phagocytes, epithelial cells, lecitine inclusions, amyloid bodies, bacteria: coccus, diplococcus, microbial sticks, immunoglobuline A, G, M. The resuls presented in Table 1.

Results in Table 1, shows complete result of immunogram example of systemic (total) immunity. There is T- lymphciyes their general function and task to increase

adoptive immune response. B – lymphocyte it is functional type of lympoocytes play an important role in humoral immunity. T-helpers carry on their surface structures that promote recognition of antigens. Participate in regulation of immune response, producing various cytokines. T – supressors are central regulators of immune response. Their main function is to control the strength and duration of complex multicomponent immune response. T – killer EK cells it is citotoxic T – lymphocytes and they a type of T-lymphocyte that lyses damaged cells of its own body. Targets of T-killer cells affected by intracellular parasites (viruses, bacteria), tumor cells. Immunoglobuline A – it is class of antibodies IgA, dominate in secretions of body. Immuneglobulibe G are syntezed by mature B – lymphocytes and antibodies produced in response to secondary contact with antigen. Immunoglobulin G (IgG) atibodies are involved in neutralization of bactetial and viral toxins, stimulation of phagocytosis, reaction of complement ficsation. Immunoglobuline-M it is a class of antibodies – IgM. They are first normally secreting during humoral response from immune system for the first contact body with antigen and this is indices of inflammatory process.

Table 1

Cellular and humoral mediated immunity in the CP sufferers

No	**Tested parameter of immune system**	**Total immunity(blood test)**		
	Cellular immunity:	**Absolute index**	**Relative value**	**Result of testing**
1	White blood cells	4.0-8.0 x 10^6/L	-	5.20
2	Monocyte	0.3-0.8 x 10^6/L	3-10%	3.00
3	Lymphocytes	1.5-3.0 x 10^6/L	19-37%	2.60
4	Neutrophils	3.0-4.4 x 10^6/L	47-72%	3.80
5	$CD3^+$ (T – lymphocytes)	800-2000	55-70%	1250
6	$CD4^+$ (T–helpers /inductors)	400-1200	40-60%	836
7	$CD8^+$ (T–suppressors cytotoxic cells)	100-700	10-20%	682
8	Immunoregulatory index $CD4^+/CD^{8+}$	-	2-4	2.7
9	$CD16^+$ (T –natural killers)	150-600	10-20	184
10	$CD19^+$ (B – lymphocytes)	120-380	6-15%	258
11	Phagocytic activity of neutrophils	1600-4000	40-80%	68%
	Humoral immunity:			
12	Immunoglobuline – A (g/L)	1.2-2.0	-	2.8
13	Immunoglobuline – G (g/L)	9-18	-	16.4
14	Immunoglobuline – M (g/L)	0.9-1.2	-	1.6

Microscopy of expressed prostatic secretion in chronic prostatitis sufferers see in Table 2, itallow in detais to describe what happening with prostate. White blood

cells in prostatic fluid it is marker of inflammation. Normal amount of WBC in prostatic fluid should be 10-12. If there is more from 10 WBC in fied of microscope vision. This result could be cause of prostatic inflammation. At the chronic inflammation in prostate in prostatic fluid frequently could be faind macrophages.

Table 2

Cellular and humoral mediated immunity in the CP sufferers

No	**Tested parameter of immune system**	**Local immunity** (prostatic fluid)	
	Cellular Immunity:	**Normal range**	**Test Result**
1	White blood cells (leucocytes)	5-10 in microscope field of view. Up to 300 cells in 1 mcl (300 x 10^{-6})	14
2	RBC – Erythrocytes	Must be absent	4
3	Macrophages	Must be absent or single	8
4	Epithelium flat	Admissible single	3
5	Epithelium cylindrical	Admissible single	5
6	Lecitine inclusions (bodies)	Must be correspond	26
7	Amyoid bodies	Must be correspond	0
8	Spermatozoa	Must be absent	6
9	Diplococcus inside cells	Must be absent	7
10	Diplococcus out of cells	Must be absent	1
11	Microbial sticks	Admissible some single	14
12	Coccus of bacteria	Admissible some single	8
	Humoral immunity local: (in prostatic fluid)		
13	Immunoglobuline A (g/L)	1.2-2.0	2,6
14	Immunoglobuline G (g/L)	9-18	14.8
15	Immunoglobuline M (g/L)	0.9-1.2	1.6

Lecithin grains are specific secretion of epithelial cells of prostatic gland giving the secretion with milky color. Normally in prostatic secretion a lot of lecithin grains in the prostatic secret. Only decrease of lecithin grains during chronic prostatitis. Amyloid bodies are formed during thickening of prostatic secretion have a oval shape and layered structure, resembling a cut like tree trunk. Normally, they are not detected, they appear when secretion in the gland stagnates which may be in chronic inflammation. We have considered many aspects of systemic and local immunity.

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