

STUDY OF INFLUENCE COMBINED PROBIOTIC ON PROFILE OF CYTOKINES IN ACUTE INTESTINAL INFECTIONS

Ghulam Rabani Khalid, Ghulam Rabani Nadim, 5th-year students

Scientific supervisor – assistant K. S. Polovyan

Sumy State University, department of infectious diseases and epidemiology

Actuality. On the modern stage in Ukraine, as well as in the whole world, morbidity grows on the acute intestinal infections (AII) caused by conditionally pathogenic microorganisms (CPM) with resistance to antibacterial preparations. This problem requires the revision of priority of etiotropic treatment at AII, study of question in relation to treatment of this pathology with the least negative influence on the organism of patients.

The Aim is to study of influence of combined probiotic on the profile of cytokines at AII, caused by CPM.

Materials and Methods. 50 patients hospitalized in Sumy regional infectious clinical hospital named by Z.Y. Krasovytskyi were examined, average age of $(42,51 \pm 2,87)$ years. Men and women were under 25. Patients were hospitalized at $(1,38 \pm 0,1)$ day of onset. Patients were divided into two groups of 25 persons each depending on the medical purpose. 1st group of patients received basic therapy – gastric and/or intestine lavage, diet, rehydration, enzymes and sorbents. The 2nd – combined probiotic “Lacto” 1 caps. 3 times per day for 5 days on the background of basic therapy. IL 1 β , IL 6, IL 4, IL 10 at hospitalization and on $(5,76 \pm 0,16)$ day of disease were examined. A control group was laid down 20 clinically healthy donors.

Results. During hospitalization groups of patients were same ($p > 0,05$) after the increase of levels of all cytokines comparatively with control ($p < 0,001$). Thus, the levels of IL 1 β arrived at values (accordingly 1st, 2nd and control groups $(4,45 \pm 0,48)$, $(4,81 \pm 0,48)$ and $(1,81 \pm 0,03)$ pg/L), IL 6 – (according to $(26,22 \pm 1,58)$, $(25,76 \pm 1,34)$ and $(1,21 \pm 0,16)$ pg/L), IL 4 – (accordingly $(8,26 \pm 0,52)$, $(9,20 \pm 0,30)$ and $(0,97 \pm 0,13)$ pg/L) and IL 10 – (accordingly $(17,83 \pm 0,28)$, $(18,90 \pm 0,40)$ and $(0,62 \pm 0,13)$ pg/L).

In the early recovery period in two groups IL 1 β declined to normal $(1,88 \pm 0,09)$ and $(1,76 \pm 0,16)$ pg/L, $p < 0,001$; other cytokines were less in dynamics ($p < 0,001$), but higher then normal ($p < 0,001$). In this period levels of IL 6, IL 4 and IL 10 were higher in 1st group than in 2nd. The results of levels of cytokines in the early recovery period are: IL 6 – 1st group – $(8,43 \pm 0,20)$, 2nd – $(3,87 \pm 0,29)$, $p < 0,001$; IL 4 – 1st group – $(5,36 \pm 0,43)$, 2nd – $(3,30 \pm 0,23)$, $p < 0,001$; IL 10 – 1st group – $(3,72 \pm 0,22)$, 2nd – $(2,70 \pm 0,10)$, $p < 0,05$. Lower concentrations of IL 6 and IL 4 in 2nd group in the early recovery period points to reduce the risk of inflammatory response to normal flora and possible chronization of pathological process in the colon compared to the patients of 1st group.

Conclusions. Thus, setting of combined probiotic at AII, caused by CPM assists more rapid reparation in digestive tract, reduces pathological potential of CPM and as a result, risk of chronization of local inflammatory process.