27th ECCMID Vienna, Austria 22 – 25 April 2017

The congress of ESCMID

Session: P095 Intestinal and intraabdominal infections

Category: 2d. Abdominal/gastrointestinal, urinary tract & genital infections

25 April 2017, 12:30 - 13:30
P1996

Immunomodulation therapy in patients with acute infectious diarrhoea and its influence on antimicrobial resistance of intestinal opportunistic flora

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Background: Acute intestinal diarrhea in adults is frequently caused by opportunistic flora. It is require new approaches to pathogenetic therapy due to inefficiency of antimicrobials. Aminodimethylaniline sodium (ADFNa) is Russian immunomodulator that can influence cellular and humoral immunity, in particular, increase the functional activity of macrophages, the synthesis of interferons and lysozyme and regulate the balance of pro - and antiinflammatory cytokines. The aim of study was to evaluate the status of opportunistic intestinal microflora (OIM) in acute infectious diarrhea in adults and effectiveness of aminodimethylaniline sodium (ADFNa) as part of its combined therapy.

Material/methods: Investigation of OIM in rectal swabs in the dynamics of disease was performed in 2 groups of patients. Each of the groups included 30 patients of both genders aged 18 to 60 years with time from the onset of symptoms not more than 48 hours, fever less than 38.5 0C less and without signs of hemorrhagic colitis. 1th group (control group) received common standard therapy. АДФNa was administered to patients of the 2th group in addition to standard therapy. Qualitative and quantitative composition of OIM, as well as its sensitivity to various antibacterial drugs were estimated.

Results: Microflora released from all patients was only OIM. In 100% the basis of the microbial landscape was E.coli with normal lactate dehydrogenase activity (N-LDA). Its association with S. capitis was observed in 40% of cases, S. epidermidis and K.pneumonia - in 35%, S.hominis and Citrobacter freundii - in 25%, E.faecium and S. aureus – in 20%. Also in 20% of cases E.coli N-LDA

was detected with E.coli with reduced lactate dehydrogenase activity, Citrobacter freundii, K.pneumonia and yeast-like fungi of the genus Candida. At least 2 microorganisms were detected in all samples of rectal swabs. Association of 3 microorganisms was revealed in 20%, 4 microorganisms - in 40% of cases. OIM in 68-90% had resistance to the main classes of antimicrobials: penicillins (93,3±4,5% in both groups), macrolodes 90±5,4% (in both groups) fluorhinolones (83,3±6,8% in 1th group and 86,6±6,2% - in 2th group), cephalosporins (93,3±4,5% in 1th group and 83,3±6,8% in 2th group), aminoglycosides (73,3±8,1% and 80±7,3%, accordingly) despite the fact that patients were not treated with antibiotics. Administration of АДФNa in addition to the standard treatment regimen led to reduce the duration of clinical manifestations of disease, recovery of normal quantity of OIM and more than two times reduced antimicrobial resistance to penicillins, cephalosporins I, II and III generation and fluorhinolones (Fig).

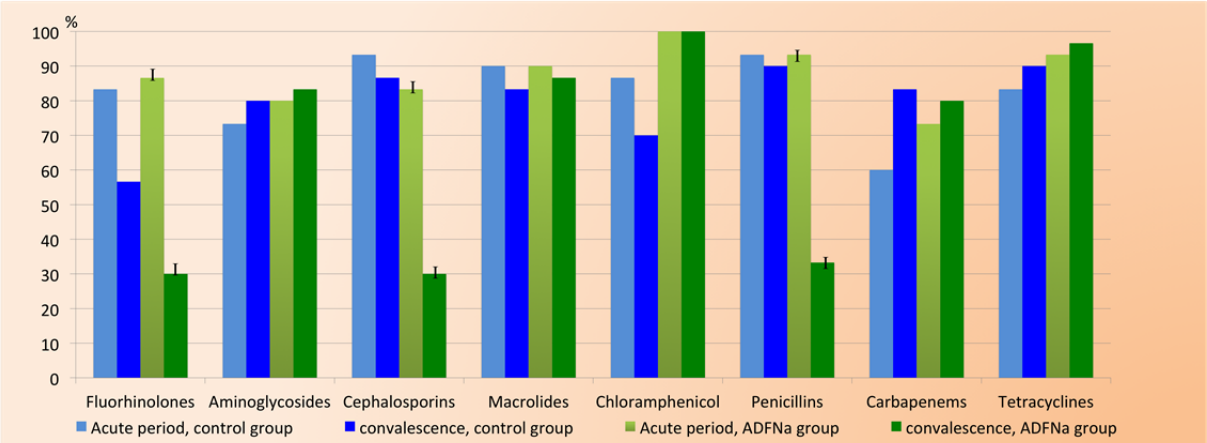

Fig. Level (%) of resistance of OIM to basic antimicrobials in the different stages of acute infectious diarrhea in both groups

Conclusions: The results of the study allow to recommend АДФNa in the combined therapy of acute intestinal infections . The administration of ADFNa also can be reasonable during antibiotic therapy with penicillins or cephalosporins for patients with any other infectious diseases.