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РОЛЬ ПОЛИМЕРАЗНОЙ ЦЕПНОЙ РЕАКЦИИ В ДИАГНОСТИКЕ ЭНТЕРОВИРУСНОЙ ИНФЕКЦИИ У БОЛЬНЫХ С ПРОЯВЛЕНИЯМИ ОСТРОЙ КИШЕЧНОЙ ИНФЕКЦИИ

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АННОТАЦИЯ

В статье представлены результаты лабораторного исследования 170 пациентов с острой кишечной инфекцией на предмет выявления энтеровирусов. Было выявлено, что значительная часть острых кишечных инфекций представлена острой кишечной инфекцией энтеровирусной этиологии. Были определены особенности эпидемиологии и клинической картины заболевания.

Ключевые слова: энтеровирусная инфекция, острая кишечная инфекция, полимеразная цепная реакция

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THE ROLE OF POLYMERASE CHAIN REACTION IN THE DIAGNOSIS OF ENTEROVIRUS INFECTION IN PATIENTS WITH MANIFESTATIONS OF ACUTE INTESTINAL INFECTION

ABSTRACT

Results of a laboratory research of 170 patients with acute intestinal infection regarding identification of enteroviruses are presented in article. It was taped that an appreciable part of acute intestinal infection is presented AII to an enteroviral etiology. Features epidemiological features and a clinical picture of a disease were defined.

Keywords: enteroviral infection, acute intestinal infection, polymerase chain reaction.

Introduction. In recent years activation of an enteroviral infection (EVI) in all regions of the world, irrespective of their social and economic development becomes perceptible. Often EVI is difficult to make the diagnosis that is bound to a variety of clinical forms of illness, which similar under traditional respiratory infections or intestinal infections in this connection early diagnostics of enteroviral infections and well-timed delivery of health care is complicated. A variety of various forms of acute intestinal infection doesn't allow us to establish the final diagnosis in this connection laboratory confirmation of the diagnosis surely is required. In such cases diagnostics of EVI in structure of acute intestinal infections requires use of the polymerase chain reaction (PCR). The most important advantage of the PCR before other methods, is its high sensitivity allowing to define single molecules of infectious pathogens. So, the PCR allows to define a contagium, to carry out monitoring of geographical distribution of options of EVI. Due to above listed by us the work object was set: to define EVI contribution in development of symptoms of acute intestinal infection (AII) in patients of the Kashkadarya region of Uzbekistan.

Material and methods: The clinical laboratory research of 170 patients from AII on the basis of the Regional infectious diseases hospital of Qarshi is conducted. At all patients from AII for identification of RNA of enteroviruses the PCR method was carried out. Excrements which got for 1-3 days are investigated. PCR was conducted (3) at the Reference laboratory of the Research Institute of Virology of the Ministry of Health of the Republic of Uzbekistan by means of the Ampli-sens Enterovirus test system (TsNIIIE of Ministry of Health of the Russian Federation, Moscow).

The results of the research and their discussion.

Results of a research showed that in fecal samples of 170 patients from AII the 73rd on identification of an EV had a positive result that made 43%. Thus, almost each 3 and 4 patient from AII at the heart of an etiological factor of a disease had an enteroviral infection. Among patients from AII and the confirmed enteroviral infection children from the birth up to 18 years - 50 children (68,4%) prevailed, at the same time the largest frequency was made by children of early age till 1 year - 21 children (28,7%), children of 1 year to 3 years made 18 people (24,6%), there were only 4 children from 4 to 7 years (5,4% of cases), from 8 to 14 years - 3 children (4,1% of cases), from 15 to 18 years of 5 children (6,8% of cases) and the remained contingent adults made, so sick from 19 to 30 years made 11 people (15,5% of cases) and 30 years of 10 patients (13,6%) are more senior. Thus, our data coincide with data of

literature which speak about the largest frequency of distribution of the EVI intestinal form at children of early age. This fact is bound to the reduced local immunity of children of early age, especially if children don't receive or receive not enough breast feeding, the gastro intestinal tract GIT forming local immunity. At the same time prevalence of boys/men 43 (59%), against girls/women - 30 became perceptible (41%).

At the collecting of the epidemiological anamnesis first of all prevailed giving not boiled raw water from open reservoirs, even to children till 1 year of life: 32 patients (43,8%), at other contingent were taped meal in public dining rooms - 9 patients (12,3%), 15 mothers (20,5%) claimed that the diarrhea at their children developed after contact to patients with an ARD and AII.

At other sick causal factors of development of AII it wasn't succeeded to tap (17 patients - 23,2%). When determining the residence of patients it was taped that most of all patients with the EVI intestinal form arrived from rural areas. Prevalence of larger number of patients with EVI from the rural area - 56 patients (76,7% of cases) tells about a possible water factor of transfer of an EV.

In diagnostics of EVI detection of seasonal features was important, it was so taped that at observation in spring and summer - the autumn period, the greatest number of patients with the taped EV by means of the PCR was observed in May - 54 cases (73,9%) when comparing with patients at which the negative result on an EV was observed, it was taped that at this contingent of patients the greatest case rate was distributed almost evenly in April and May months - 46,3% and 42,1% of cases.

The disease at patients of an enteroviral etiology generally began with AII sharply 56(76,7%). Patients arrived for 1-2 days of a disease of 29 (39,7) %, at the same time 27 (36,9%) patients 2(2,7%) for 7-8 days, 2 (2,7%) for the 10th day were hospitalized for 3-4 days from the beginning of a disease, 10 (13,5%) for 5-6 days, and more than put from the beginning of a disease and 3 (4,1%) patients considered themselves patients during the long time. The acute beginning of a disease at the main contingent of patients will completely be compounded with literature data (1-2).

It is necessary to notice that at patients with the EVI intestinal form the general state was in most cases regarded as moderately severe 50 (68,4%), but in the comparative analysis it was taped that the number of cases with a serious current of this form prevailed in group with a positive PCR result on an EV (19 (25,7%) at EVI and 20 (21,05%) at patients with negative result).

The intoxication syndrome became perceptible at all patients from the first day of illness and lasted on average $3,72 \pm 0,46$ days. High temperature of febrile character was observed at 11 (15,06%) patients whereas the subfebrile condition occurred at the majority 49 (67,1%) patients from AII, normal body temperature was diagnosed at only 13 (17,8%) patients. It is compounded with data of literature (1-2) where it is indicated the relative mild current of the EVI intestinal form, with moderate intoxication.

The specific gastrointestinal tract disease at patients with the EVI intestinal form in 100% of cases was characterized by a loss of appetite, at a part of patients 7 (9,5%) the anorexia was observed. At 17 patients (23,2%) abdominal pains were observed. Often the diarrhea was followed by nausea – at 18 (24,6%), vomiting – at 14 (19,1%). Almost at all patients the liquid chair without pathological impurity from 5-6 at 32 (43,8%) patients, and till 10-12 once a day - at 13 was observed (17,8%). At only 2 patients (2,7%) of the studied selection it was observed impurity of slime, pus and a blood in a chair. At the same time at 12 (16,4%) patients the condition of a serious dehydration of which the main part was made by children of early age of 10 children (83,3%) developed.

It is necessary to notice that at 16 of 21 (76,1%) sick adult age with EVI the accompanying pathology in the form of chronic cholecystitis, chronic pyelonephritis, chronic gastritis, chronic hepatitis and a helminthic invasion became perceptible. We consider that this chronic pathology in a GIT promotes dysfunction mucous an intestine and as a result to a

larger susceptibility of an organism as to EVI and other intestinal infections. In group of comparison with negative result of the PCR at 11 of 31 (35,4%) adults the accompanying chronic pathology of a GIT was observed.

From background diseases the larger frequency of anemia of serious degree at patients with the EVI intestinal form attracts attention. Perhaps, this fact is one of EVI provoking for more mild perception as anemia promotes depression of immunobiological properties of an organism. So anemia frequency degrees 3 made a half of cases of observations 37 (50,6%), at the same time there were 24 patients with the 2nd degree of anemia (32,8%), only 11 (15%) cases patients with mild degree of anemia made and at only 1 (1,3%) the patient a hemoglobin within norm was observed. When comparing with group with negative result of the PCR it was taped that the number of patients with serious anemia made in this selection 35 (36,8%), moderately severe anemias of 42(44,2%), mild degree 15 (15,7%) and at 3 (3,1%) a hemoglobin was within norm.

Conclusions: In structure of patients from AII at 43% positive takes of the PCR on existence of an EV were taped, at the same time children till 1 year prevailed. The major causal factor of distribution of EVI were giving raw unboiled water from open reservoirs in rural areas that speaks about a possible water factor of transfer of an EV. The disease was characterized by an acute current and moderate severity against the background of anemia of serious degree.

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