CLINICAL AND EPIDEMIOLOGICAL ASPECTS OF THE COURSE OF SHIGELLOSIS IN CHILDREN

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Abstract. Based on the study of clinical and anamnestic data, laboratory and immunological parameters of 96 young children with shigellosis with smooth and undulating course, the most significant prognostic criteria were determined, based on which it is possible to predict the course of the disease at the onset of the disease.

Keywords: Shigellosis, children, method, treatment, diagnosis.

INTRODUCTION

Shigellosis occupies one of the leading places in infectious pathology of childhood and is a significant socio-economic problem in many countries of the world [2]. Wide prevalence, the formation in some cases of unfavorable variants of the course and end of the disease contributes to a decrease in the level of health of the nation as a whole, and also puts the problem of combating shigellosis in the category of the most important [1]. Meanwhile, improving the diagnosis and prognosis of the course of shigellosis will provide an opportunity to timely prescribe adequate therapy at the stage of manifestation of the disease, thereby reducing the stay of patients in hospital and reducing the number of invasive interventions in the body of a sick child.

Prognosis of the course of shigellosis in Uzbekistan and in the post-Soviet states at the present stage in most cases is based on the determination of certain parameters, which is associated with invasive intervention in the patient's body [3, 4].

MATERIALS AND METHODS

Based on the above, the aim of the work was to develop criteria for predicting the course of shigellosis in children based on the study of differences in the clinical picture, data from laboratory methods of examining patients with shigellosis with a smooth (GT) and wave-like (VT) course. Materials and methods. Under observation were 96 children aged one to three years, of which 66 children with GT, 32 with VT. All patients underwent an analysis of anamnestic, generally accepted clinical and laboratory data, determination of the level of cytokines (TNF-α, IL-1,2,4,6,8), prostaglandins (PG) (enzyme immunoassay), serum antioxidant activity (AOA) (spectrophotometric method), trace elements Zn, Se (spectrofluorometric method), vitamins A, E (BA, BE) (atomic absorption spectrophotometry method) in serum, and local protective factors: lysozyme activity (nephelometric method), the amount of secretory immunoglobulin A (sIgA) (enzyme immunoassay) in feces. To identify prognostic criteria (PC) with the help of which it is possible to predict the course of shigellosis, the Wald-Genkin heterogeneous sequential procedure (HSP) was used [3,4].

RESULTS AND DISCUSSION

A total of 42 main anamnestic, clinical and special laboratory parameters obtained during examination of children with shigellosis with GT and VT were analyzed. According to the NPP, these parameters were divided into ranges, comparing their frequency in both groups of patients, prognostic coefficients (PC) and information content (I) of the parameters were determined. The prognostic value was represented by the parameters, the information content of which exceeded 0.30 ($I \geq 0.30$); in this case, the parameter demonstrated very high prognostic significance if it was $I \geq 3.0$, high - $1.0 \leq I \leq 3.0$, average - $0.50 \leq I \leq 0.99$ and low - $0.30 \leq I \leq 0.49$.

Research results and their discussion. When analyzing the anamnestic parameters in patients with shigellosis with GT and VT, a very high prognostic significance of the sign was revealed - previous infectious diseases (I = 4.79); high significance - anemia, including in the anamnesis (I = 1.66); low significance - the course of pregnancy (I = 0.51). Of the 11 analyzed clinical parameters, 7 revealed prognostic value, of which low stool frequency had a very high significance (I =

3.58); high - the presence of pathological impurities in the feces (I = 1.51), average - vomiting (I = 0.92), spasm and rumbling of the sigmoid colon (I = 0.61); low - exsicosis (I = 0.48), the level of gastrointestinal tract damage (I = 0.38), body temperature (I = 0.35). Of the 8 generally accepted laboratory parameters compared, 4 were informative (arranged in order of their significance). The results of clinical urine analysis (I=0.72); hemoglobin level (I=0.65) and absolute number of leukocytes (I=0.56) of peripheral blood had average informativeness; the relative number of segmented neutrophils (I=0.43) had low informativeness. Of the 15 analyzed special parameters, 13 had prognostic value, and all of them had high and average informativeness (the parameters are presented in descending order of significance). The following indicators were highly informative: PGE (I=1.93), IL-6 (I=1.72), IL-1β (I=1.67), PGF2α (I=1.59), lysozyme (I=1.52), TNF-α (I=1.51), IL-2 (I=1.51), sIgA (I=1.31), AOA (I=1.13), IL-8 (I=1.19); average - BE (I=0.64), IL-4 (I=0.60), Zn (I=0.59).

Prediction of the course of shigellosis NPP is carried out by mathematically summing up the prognostic coefficients in the presence or absence of these signs, until the sum reaches the prognostic threshold, which, with a reliability of 95%, is ±13.0. If the sum of the prognostic coefficients reaches the value of "+13.0" or more, a favorable (smooth) course of shigellosis can be predicted, and if "-13.0" or less - an unfavorable (wave-like) course. If the sum of the prognostic coefficients does not reach the prognostic threshold, the prognosis is uncertain, which means insufficient information for diagnosis.

CONCLUSION

1. Prognostic criteria of shigellosis have been identified, which at the stage of disease manifestation allow to predict the course of the disease.

2. Clinical and anamnestic criteria have been determined, based on which it is possible to predict the course of shigellosis with a probability of up to 78% (previous infectious diseases, anemia, pregnancy, stool frequency, the presence of impurities in the feces, vomiting, spasm and rumbling of the sigmoid colon, signs of exsiccosis, the level of gastrointestinal tract damage, increased body temperature, changes in the clinical analysis of urine and blood).

3. Special additional indicators have been identified that allow to increase the reliability of predicting the course of the disease to 95% (tumor necrosis factor-α, interleukins-1β, -2, -6, -8, -4, prostaglandin E, prostaglandin-2α, lysozyme, secretory immunoglobulin A, antioxidant activity, vitamin E, zinc).

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