



BRITISH **MEDICAL JOURNAL**



British Medical Journal

Volume 2, No 4., 2022

Internet address: <http://ejournals.id/index.php/bmj>

E-mail: info@ejournals.id

Published by British Medical Journal

Issued Bimonthly

3 knoll drive. London. N14 5LU United Kingdom

+44 7542 987055

Chief Editor

Dr. Fiona Egea

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British Medical Journal Volume-2, No 4

IMPROVEMENT OF METHODS OF TREATMENT OF SCARLET FEVER IN CHILDREN.

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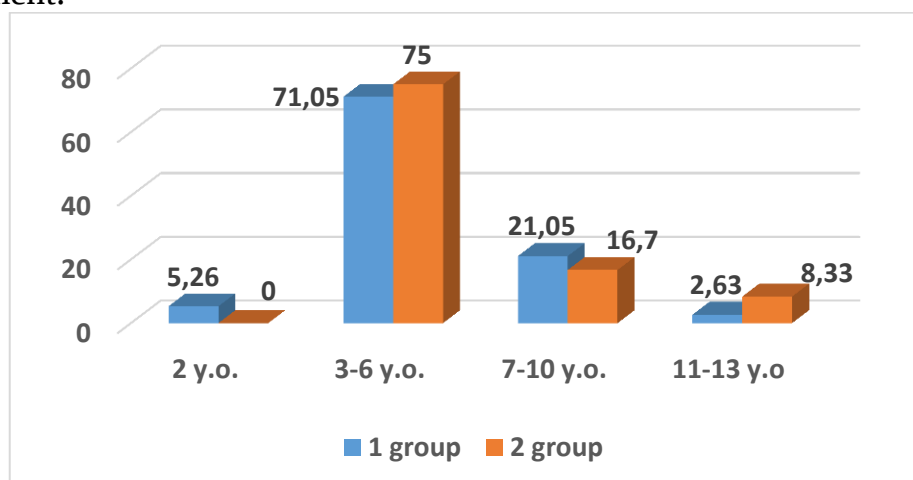
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Abstract: Infections of the upper respiratory tract IOTURT are a widespread group of diseases that occur in both children and adults.

Keywords: scarlet fever, clinical manifestations, bacteriophage "Sectaphage"

Introduction: Infections of the upper respiratory tract IOTURT are a widespread group of diseases that occur in both children and adults. In turn, among IOTURT, one of the most common diseases is acute tonsillopharyngitis (OTF) (Briko N.I., 2003). Among IOTURT, one of the most significant problems of infectious pathology is streptococcal infection everywhere (I.M. Bedulina, G.N. Chistenko, 2006). According to WHO, 100 million people in the world annually suffer from primary acute streptococcal infection. At the same time, beta-hemolytic streptococci of serological group A are of paramount importance in human pathology, which cause about 50 clinical forms of infection. Scarlet fever occupies a dominant position in the structure of primary streptococcal infection. Characteristic of streptococcal infection is the change of circulating strains of the pathogen with a predominance of highly virulent variants. There is a tendency to make the clinic heavier and to increase the frequency of complications after the disease (N.I. Briko, N.A. Malyshev, V.I. Pokrovsky, 2007) To date, the question of the effectiveness of antibacterial drugs used for the treatment of streptococcal diseases remains controversial, the formation of acquired resistance of group A streptococci to penicillins and cephalosporins has not been fully studied. Scientists believe that in the coming decades there may be a situation when there will be no effective antibiotic left. The way out of this situation is phage therapy – a method of treatment as close as possible to the natural natural process (phagolysis – the destruction of bacteria by phages – occurs in an organ affected by bacteria during natural recovery). Since bacteriophages are constantly evolving, bacteria do not develop resistance to them. Therefore, phages are able to destroy microbes, before which antibiotics are already powerless. In addition, unlike antibiotics, they act strictly selectively. A certain type of phage destroys only the corresponding type of pathogenic bacteria. This allows you to preserve the normal biocenosis of the body and prevent side effects. Considering all of the above, the purpose of this study was to study the effectiveness of the use of the bacteriophage "Sectaphage in the treatment of scarlet fever in children." To evaluate the effectiveness of the use of Sectaphage bacteriophage, we conducted a study of its effect on the dynamics of clinical symptoms and laboratory data in patients with severe scarlet fever who were on inpatient treatment.

Material and methods. The study was conducted on 2 groups of sick children who were in the intensive care unit of the Tashkent City Clinical Infectious Diseases Hospital No. 1 from May to July 2022 with a diagnosis of Scarlet fever, an extremely severe course. The study was conducted on 2 groups of patients, the main group 1 (n=38) consisted of persons who, along with the generally accepted course of treatment, included the drug Sectafag and the 2nd comparison group consisted of 12 patients with the same diagnosis who received conventional treatment. (Patients received written informed consent to participate in the study). The drug Sectaphage is a polyvalent pyobacteriophage has the ability to specifically lyse bacteria of staphylococci, streptococci (including enterococci), proteus, Klebsiella pneumonia, Pseudomonas aeruginosa and E. coli. Indications for the use of this bacteriophage are the treatment and prevention of diseases of the ear, throat, nose, respiratory tract and lungs; surgical infections; urogenital infections; enteral infections; generalized septic diseases and other diseases caused by bacteria of staphylococci, streptococci (including enterococci), proteus, klebsiella pneumonia, Pseudomonas aeruginosa and E. coli. In severe manifestations of infections caused by staphylococci, streptococci, proteus, Klebsiella pneumonia, Pseudomonas aeruginosa and E. coli, the drug is prescribed as part of complex therapy. **The results of the studies** obtained. In total, the study involved 50 patients with a diagnosis of Scarlet fever, an extremely severe course, of which 38 (the main group) received in addition to the conventional treatment bacteriophage "Sectaphage" and 12 patients (the comparison group) only standard conventional treatment.



The average age of patients in the main group (Group 1) was 5.39 ± 0.37 years (Fig.1) with a predominance of children from 3 to 6 years (27; 71.05%). In the comparison group (group 2), the average age was 5.75 ± 0.80 , children aged 3-6 years also prevailed (9; 75.0%). At the same time, boys prevailed in both groups (in group 1 - 23; 60.5% and in 2 - 8; 66.7%).

A comparative analysis of the organization of children by groups showed that preschool institutions in group 1 were attended by 22 (57.89%), in group 2 - 5 (41.67%),

school - 5 (13.16%) and 3 (25%), respectively, the share of unorganized children was, respectively, 11 (28.95%) and 4 (33.3%) patients.

A comparative analysis of the proportion of urban and rural population among patients showed that the majority of patients were children of Tashkent and only 1 (2.63%) child in the main group was from Surkhandarya region. The diagnosis and clinical forms of scarlet fever were established in accordance with the clinical classification criteria by order of the Ministry of Health No. 273 of November 30, 2021.

The disease in 90% of children began acutely, with an increase in temperature mainly to 37.0 in 31 ($62.0 \pm 1.11\%$), to 38.0 in 13 ($26.0 \pm 0.72\%$) and in 1 patient to 39.0 ($2.0 \pm 0.20\%$). Almost all children at admission were concerned about general weakness ($64.0 \pm 1.13\%$), the presence of small-point rash ($88.0 \pm 1.32\%$) on the face, arms and trunk, sore throat ($50.0 \pm 1.0\%$), cough ($40.0 \pm 0.89\%$), dizziness ($26.0 \pm 0.72\%$), headache and sleep deterioration ($32.0 \pm 0.80\%$). Upon admission, all patients were found to have a severe course of the disease. All patients were hospitalized in the intensive care unit. Objectively, all patients had general weakness ($100.0 \pm 1.61\%$), all had clear consciousness ($100.0 \pm 1.61\%$), 94.0% of patients had a small-point rash located on the face, except for the nasolabial triangle, on the trunk and flexor surfaces of the extremities, with thickening in the area of folds against the background of hyperemic skin. The rash was more often noted on the face. In 90.0% of patients, an increase in submandibular lymph nodes with a size of 0.5 to 1.5 cm was detected on objective examination, with painless palpation. There is a slight increase in the liver, which on average in 28.0% of sick children protrudes from under the costal arch up to 0.5-1.5 cm. Enlargement of the spleen was not observed in anyone.

Hyperemic throat was detected in 45 (90.0%) patients and an increase in palatine tonsils in 32 ($64.0 \pm 1.13\%$) patients. Angina was mainly catarrhal, less often follicular. 45 (90.0%) had a "crimson tongue". All patients underwent etiotropic therapy - injections of benzylpenicillin sodium salt were administered intramuscularly at the rate of 50000-100,000 units / kg / day or more. The mode of administration 3-4 times a day for 7 to 10-14 days, in some cases azithromycin 10 mg / kg 1 time per day per os for 5 days; pathogenetic therapy - detoxification therapy using glucose-salt solutions intravenously drip at the rate of: children under 2 years of age — 50 ml / kg/day, 2-7 years — 40-20 ml / kg / day and children older than 7 years — 20-10 ml / kg / day; symptomatic therapy - antipyretics were used: paracetamol (in a single dose of 10-15 mg / kg no more than 4 times a day with an interval of at least 4 hours) or ibuprofen (in a single dose 5-10 mg/kg).

Desensitizing agents were prescribed to children with allergic rash, allergodermatitis. To strengthen the vascular wall, ascorbic acid or ascorutin was prescribed to children in age-related dosages. The above therapy was prescribed to all children (n=50). In one group of children (n=38), in combination with conventional therapy, the bacteriophage "Sectaphage" was included 5 (10) ml x2 times a day per os. To evaluate the effectiveness of the drug "Sectafag", we conducted a comparative analysis of the duration of complaints and the main clinical manifestations of the disease

in patients in two groups: a group of 38 patients (the main group) who received in addition to the conventional treatment bacteriophage "Sectafag" and 12 patients (the comparison group) only standard conventional treatment. The comparative analysis of the duration of inpatient treatment showed that the patients of the main group were in the clinic for an average of 5.16 ± 0.06 days (minimum 4, maximum 6 days), in the comparison group - 8.25 ± 0.57 days (minimum 7, maximum 14 days). The duration of general weakness of patients, which was observed in all patients of both the main and comparison group, in the main group was 3.92 ± 0.14 days, significantly differing from the average duration of this symptom in the comparison group (5.08 ± 0.10) ($P < 0.05$)

Lethargy, which in the main and in the comparison group were almost the same (26.32 ± 0.83 and 25.0 ± 1.44 , respectively) had different durations in these study groups (2.63 ± 0.11 and 4.0 ± 0.14 days, respectively), significantly bothered the patients of the comparison group longer. Body rash in the main group was observed in 94.74 ± 1.57 and $91.67 \pm 2.75\%$ of cases, while the duration of rash detection in the main and comparison groups, respectively, was 3.89 ± 0.12 and 4.75 ± 0.10 , significantly differing from each other ($P < 0.05$). The same characteristic pattern occurred in the duration of such symptoms such as sore throat (3.84 ± 0.12 and 4.50 ± 0.11 days, respectively), hyperemia of the throat (3.03 ± 0.12 and 3.92 ± 0.13 days, respectively).

The duration of the febrile period in patients in the main group was 3.74 ± 0.12 days, in the comparison group this manifestation of the disease was significantly longer (4.33 ± 0.11 days). For a longer period of time, the comparison group had an increase in lymph nodes (3.67 ± 0.11 days) and palatine tonsils (4.58 ± 0.12 days), with their duration in the main group of 2.71 ± 0.11 and 4.03 ± 0.12 days, respectively ($P < 0.05$).

The results of a comparative analysis of the effectiveness of the bacteriophage "Sectaphage" based on the study the duration of the main clinical symptoms in the group of patients with the inclusion of the bacteriophage to the traditional treatment (main group) and the group of patients with the traditional method of treatment (comparison group), showed a reduction in hospital bed days due to a significant reduction in the duration of such manifestations of the disease as general weakness, lethargy, sore throat, throat hyperemia, increased lymphatic nodes and palatine tonsils and others in patients of the main group. Thus, the conducted research and the results obtained allow us to recommend the use of the bacteriophage "Sectaphage" in the complex therapy of severe forms of streptococcal infection.

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