

Introduction

Epstein-Barr virus infection remains relevant and important medical and social problem, that caused worldwide pathogen prevalence, potential oncogenicity, increasingly wider range of pathological manifestations, the possibility of atypical course with prevalence of protracted and recurrent forms, the lack of specific treatment and prevention. Significant polymorphism of clinical manifestations of infectious mononucleosis, variety of lesions, often a lack of clear criteria and belated laboratory and instrumental results, available laboratory tests, and, sometimes, impossible test execution, impede diagnosis of disease in pre-hospital period and on admission to hospital.

Objective

The aim of the study was to optimize the diagnosis and treatment of infectious mononucleosis in children by examining the features of modern analysis and diagnostic value of clinical and sonographic parameters in the verification of the disease.

Materials and Methods

Based on infectious boxed air droplet infections department in Regional Children Clinical Hospital (Chernivtsi) 65 children with infectious mononucleosis were examined. 42 children with the final clinical diagnosis of the disease due to clinical-hematological criteria complex formed 1st clinical group, the 2nd clinical comparison group included 23 children, suffering from serologically confirmed infectious mononucleosis. For the main observation of clinical signs clinical groups did not differ significantly.

Design of research provided for a comprehensive analysis of clinical, anamnestic, and sonographic investigations in a children cohort and representatives of clinical groups with subsequent analysis of diagnostic value in confirming of the disease.

Results

For the vast majority of patients with sudden onset of disease (93,8%) with a fever greater than 38,5°C (61,5% patients). However, the fever value that exceeded 37,5°C before hospitalization, were recorded in 80% of children. The average duration of fever in the children cohort was 2,6±0,2 days.

Exudative tonsillitis was present in 81,6% of children cohort, less frequently in representatives of 1st clinical group (76,2% versus 87% in patients with serologically established diagnosis, $p_{\varphi} > 0,05$). Duration of membranes on tonsils of patients in clinical group was identical

($4,6 \pm 0,5$ days and $4,7 \pm 0,5$ days in representatives of 1st and 2nd clinical groups, respectively, $p > 0,05$).

The most common clinical syndrome was lymphadenopathy, which was recorded in 90,7% of the children cohort. In particular, more often submandibular and anterolateral neck lymph nodes was affected. Slightly more proportion of children with lymphadenopathy was in 2nd clinical group (95,6%), than in the 1st clinical group of patients (85,7%, $p_{\varphi} > 0,05$).

Symptoms such as shortness of nasal breathing (was observed in 78,5% and 78,2% of children in 1st and 2nd clinical group, respectively, $p_{\varphi} > 0,05$) and snuffle voice (was observed in 73,8% and 73,9% of patients in 1st and 2nd clinical groups, respectively, $p_{\varphi} > 0,05$) associated with the affection of the lymphoid tissues.

Increasing the liver size over the age norm was identified in 50% of children in 1st clinical group and 65,5% of patients with serologically verified disease ($p_{\varphi} > 0,05$). In both groups, hepatomegaly mostly limited to values of 2 to 3,5 cm (33% and 43,5% of children in 1st and 2nd clinical groups, respectively, $p_{\varphi} > 0,05$). Clinically-instrumental accordance the liver size was observed in 70% cases in both clinical groups.

Splenomegaly was determined in 44,7% of the children cohort by palpation, in particular, more than half (56,5%) of representatives in 2nd clinical group and 33,3% patients with clinically diagnosed disease ($p_{\varphi} > 0,05$). Sonographic splenomegaly was determined in 57,4% of children cohort, including 60% patients of 2nd clinical group and 54,8% patients with clinically diagnosed disease ($p_{\varphi} > 0,05$).

The results of the diagnostic value of these symptoms (tonsils hyperemia, hepatomegaly, exudative tonsillitis, lymphadenopathy characterized by sensitivity 57-95% and specificity 10-50%) had a certain inconsistency with the literature. In literature separately clinical parameters in most cases had sufficient specificity (84-99%) but low sensitivity (7-53%). However the low sensitivity to confirm infectious mononucleosis were hepato- and splenomegaly and fever above $37,5^{\circ}\text{C}$, which is consistent with the literature

Conclusion

It have been determined that infectious mononucleosis in children typically characterized by sudden diseases onset (93,8%) with high fever more than $37,5^{\circ}\text{C}$ (80%), exudative tonsillitis (81,6%) , submandibular and cervical lymphadenopathy (90,7%), shortness of nasal breathing (78,4%) and nasal voice (73,8%).

In confirmation of the EBV-etiology of infectious mononucleosis exudative tonsillitis and lymphadenopathy were highly sensitive (90% and 95% respectively), but with a significant proportion of false positives results.

Thus, due to low diagnostic value of clinical-anamnestic and sonographic parameters in the detection of EBV-etiology infectious mononucleosis in children with confirmed low likelihood ratio values and risk indices, the use of these criteria is expedient only in combination.