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CLINICAL AND RADIOLOGICAL INDICATORS OF SEPTIC PNEUMONIA IN CHILDREN

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Annotation

In clinical practice, when managing patients with severe pneumonia, the doctor, when determining treatment tactics, has to solve difficult issues related to the primary or secondary (septic) nature of pneumonia. In this regard, the presence of clear diagnostic criteria for sepsis, pneumonic sepsis, and septic shock in patients with severe pneumonia is of great importance, since it largely determines the tactics of patient management. Severe respiratory failure and/or signs of severe sepsis or septic shock with a predicted risk of an adverse outcome requiring intensive therapy characterize severe pneumonia.

Keywords: X-ray examination, clinical picture, septic pneumonia, children.

Introduction

Septic pneumonia is often "mute", not diagnosed by clinicians, since the physical data in the lungs, unlike banal pneumonia, are not very bright, weakly expressed, which makes the X-ray method leading in their recognition. Clinical manifestations of sepsis in children are not very bright and poorly expressed, since the pathogenesis of septic pneumonia is complex (the entrance gate of infection can be both the vascular network of the lungs and the bronchial tree with predominantly endogenous infection). Therefore, septic pneumonia is often "mute", not diagnosed clinically, which makes the X-ray method the leading one in their diagnosis [1,2,3,4,5,11,12]. Currently, the classical concepts of septicemia and septicopiemia, as integral equivalents of sepsis, do not reflect the full development of the septic infectious process. Persistent bacteremia is an indisputable, but not mandatory diagnostic sign of sepsis.

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Sepsis is proposed to be understood as the presence of a clearly established infectious origin, which caused the occurrence and progression of the systemic inflammatory reaction syndrome (SERS). Severe sepsis is characterized by the development of one of the forms of organosystem insufficiency (acute respiratory distress syndrome, pulmonary heart failure, acute renal failure - acute renal failure, coagulopathy, etc.) in the presence of an established infectious focus and two or more signs of CVD (2,6,7,8,9,10).

The purpose of the study. Improve the results of diagnosis and treatment of septic pneumonia and its complications in children.

Material and Methods

The object of the study was 56 patients aged from 1 month to 18 years (2015-2020), who received treatment at the Samarkand Regional Children's Multidisciplinary Medical Center. We systematized the clinical and radiological picture of septic pneumonia. The development of sepsis was based on postoperative purulent complications (4%), purulent processes of soft tissues (16%), as well as bones (82%). All sick children underwent dynamic lung X-ray examination. The results of the study and their discussion. The main radiological signs in our studies were discoid atelectasis, high standing of the diaphragm dome, dilation of the right heart, strengthening of the basal pattern. Interstitial changes (n=26) were more often accompanied by rapid lesion of the pulmonary parenchyma. In the early stages of the rapid course of sepsis, edematous-draining, focal and infiltrative changes were detected on lung radiographs, mainly in the cortical part of the lung. The foci were inhomogeneous in size from 0.5 to 1.0 cm, as well as against the background of a pronounced increase in the pulmonary pattern. In 15 cases, the foci were large-focal with indistinct outlines, infiltrates ranging in size from 4 to 5 cm. Along with this, there was a typical symptom of "snow storms", without a "path" to the root of the lung. With the progression of the process, the decay and abscission of these infiltrates were often observed (n=20). Lobitis was noted in 4 patients, which, unlike bronchogenic lobitis, remains moderate with focal changes in other parts of the lung. 29 patients (57%) had metastasis with purulent-necrotic and bullous destruction of the lungs. This variant of pulmonary lesions was characteristic of staphylococcal sepsis in osteomyelitis.

Radiographs in 2/3 of cases revealed bilateral asymmetrically located multiple (5 or more) thin-walled abscesses with a liquid level in them in combination with air ring-shaped shadows of a similar size with a diameter of these cavities up to 4 cm. The dynamics of this X-ray picture is characterized by the emergence of new foci of infiltration, the fusion of small cavities with the formation of large cavities of 6 - 8 cm in size. Single lung abscesses were observed in 4 patients. Bullous destruction of the lungs was determined in the form of rounded and oval thin-walled cavities against the background of an unchanged pulmonary pattern. With a prolonged course of sepsis, bronchopneumonia of atelectatic aspiration genesis occurred in 4 patients. 6 patients developed pleural complications - pyopneumothorax, more often bilateral. Thus, changes in the lungs in sepsis in children are diverse and reflect deep disorders of vascular and bronchial structures with the addition of parenchymal necrosis and the outcome in suppuration.

Conclusion

1. In half of cases, lung lesions in children with sepsis are detected late, at the stage of formation of pustules, empyema of the pleura.
2. Recognition of the clinicorentgenological stage of septic lung damage, complications and prevalence of the process is important for early pathogenetically based treatment.

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