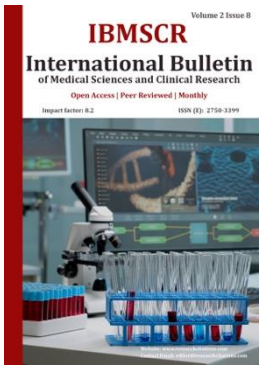

RESPIRATORY FAILURE IN TERMS OF CHILD MORTALITY

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Annotation; Our work reflects one of the causes of infant mortality such as respiratory failure, which makes us, doctors all over the world, think about it, proven in literary sources.

Key words; aspects, children, age, diseases, mortality.

Despite positive trends in the field of pediatrics, a number of issues related to improving the quality of emergency care for newborns with critical conditions due to respiratory distress syndrome, intrauterine infections, and septic processes, which necessitate long-term respiratory support, remain unresolved to date.

Infant mortality (IM) is an integral indicator for assessing the state of health of the population, a criterion for the effectiveness of the work of organizations for the protection of motherhood and childhood, executive authorities in the field of public health.

When conducting a sectional study of the corpses of children, it is necessary to look for local signs of acute respiratory disease and its general manifestations. The diagnosis of acute respiratory disease as the cause of a child's CC can be made only with a morphological study. Local changes in acute respiratory diseases are manifested by inflammation of various forms and intensities localized in the respiratory tract and lungs. The most "favorite" localization of the maximum manifestation of the inflammatory process in the respiratory tract in young children is the larynx, the bifurcation of the trachea, the chill sections of the bronchi. In addition, there is a constant reaction of regional lymph nodes. Sometimes it is even more pronounced than changes in the mucous membrane of the respiratory tract. These features attract attention in cases of CC.

Specialists noted that the children of the first half of life are more likely to have sepsis, the children of the first three months are more likely to suffer from this disease, so, for example, the results of autopsies carried out in the Leningrad regional children's pathoanatomical bureau, the frequency of sepsis in the structure of total infant mortality was 1% , in 2001 - 1.4%, in 2002 - 1.9%, while the share of newborns among the deceased from sepsis of children did not exceed 50%.

Authors of the literature confirmed that in the development of sepsis in children of the first year of life, on the one hand, early microbial sensitization of the fetus is important in pregnant women with chronic foci of inflammation: chronic tonsillitis, cholecystitis, adnexitis, especially if the pregnant women have also suffered a viral disease, which makes the placenta easily permeable for microbial flora, during labor (usually with premature or early discharge of amniotic fluid, prolonged labor, endometritis) and after birth.

Effective treatment of severe infectious and inflammatory diseases in children is a pressing issue in modern neonatology. Despite the reduction in infant mortality over the past

5 years from 14.6 to 11.2 per 1000 live births, this figure continues to remain high. In the structure of causes of neonatal mortality, severe infection accounts for about 36%.

Sepsis is a serious infectious process, which is based on the generalized decompensation of the body's immunological reactivity. It is manifested by damage to barrier systems, the spread and multiplication in the body of various microbial pathogens.

At the initial consultation stage, if the patient's condition allows, the doctor collects the medical history, complaints of parents or the child. The connection between respiratory failure and the supposed cause, the presence of chronic pathologies, congenital defects are determined. The algorithm for further examination includes:

Physical examination. The condition is assessed by a pediatrician or pediatric anesthesiologist. The level of consciousness, skin color (cyanosis, pallor), participation of the abdominal press, supraclavicular and intercostal areas in the act of breathing, and the respiratory rate are determined. Auscultation over the lungs reveals weakened noises.

Pulse oximetry. SpO2 (saturation) on the right hand falls below 95% in respiratory failure. A level of less than 90% is considered critical. Heart rate changes in the third or fourth degree of respiratory failure.

Blood gas composition. Respiratory disorders are characterized by PaO2 at a level of 80-60 and below, PaCO2 less than 35-38 or more than 90 mm Hg, blood pH when breathing atmospheric air drops to 7.2 and below.

X-ray of the chest organs. The image shows an increase or depletion of the pulmonary pattern, in pneumonia - focal infiltrates, in cardiac defects - a change in the shape and position of the vascular bundle, the shadow of the heart.

In the pathogenesis of the sudden death of young children, various clinical variants of these tragic cases are possible. It is known that the unexpected death of a child is a probable and not uncommon outcome of a number of life-threatening conditions, including those that are quite pronounced in their clinical manifestations. Among such life-threatening conditions in infants, infectious diseases, including those with respiratory organs, are of paramount importance. The most common cause of sudden death of infants and young children are diseases of the respiratory system of viral and bacterial etiology. They are found in 70-85 percent of cases of such deaths.

According to the data of domestic authors, in 8-90% of cases of unexpected death there were infectious diseases of the respiratory organs. Among them, ARVI: flu, adenovirus infection, parainfluenza, infections of mixed etiology were noted (in decreasing frequency).

Sources of infection of a child after birth, especially in the first days of life, can be a mother, attendants, contaminated clothes, air. In the body of the child, the infection penetrates through the lungs, skin, intestines, but with the greatest frequency the primary focus of infection is localized in newborns in the umbilical wound and umbilical vessels.

Analysis of literature data shows that of all types of sepsis, the umbilical is most often (52%), the second and third places are occupied by intestinal and pulmonary sepsis, followed by skin, cryptogenic sepsis and osteomyelitis.

With umbilical sepsis in the umbilical fossa region, the circulatory infiltrates of lymphogistiocytic character are clearly revealed. In those cases when prolonged antibiotic therapy was prescribed, in the umbilical arteries and veins, mainly productive inflammation develops. When antibacterial therapy is not sufficiently active, untimely or absent in general, purulent inflammation develops in the umbilical vessels.

There are many reasons for respiratory failure in children. They are not always associated with respiratory tract diseases. For ease of understanding, etiological factors are usually divided into two large groups:

Extrapulmonary. Includes CNS pathologies that lead to depression of the respiratory center (asphyxia, intracranial hemorrhage), neuroses with a respiratory component, paralysis of the respiratory muscles. Also among the causes are injuries and damage to the chest, pleura, obstruction of the trachea by foreign bodies. DN is characteristic of heart defects, generalized allergic reactions.

Pulmonary. Such lesions include infiltrative-inflammatory diseases of the bronchopulmonary tract (bronchitis, pneumonia), congestion (shock lung). This category includes diseases associated with a decrease in alveolar ventilation: aplasia and hypoplasia of the lung, resection of a lobe or the entire organ, external compression.

At first, the body compensates for oxygen starvation by increasing the work of external respiration, developing dyspnea. An additional flow of oxygen comes due to increased respiratory movements, increased physical work of the respiratory muscles.

Over time, energy reserves are depleted, the supply of O2 and its transport by erythrocytes decreases, and hypoxemia develops. As a result, the body's tissues do not receive enough oxygen - hypoxia develops. As hypoxia increases, the condition enters the decompensation stage: the functions of the nervous, respiratory system, heart and blood vessels are suppressed.

All deceased children show more or less pronounced phenomena of parenchymal or fatty degeneration of the liver, kidneys, and myocardium. In most endocrine glands, dystrophic changes in parenchyma cells, blood vessel fullness with thrombovasculitis and hemorrhage are observed. In the cortical substance of the adrenal gland impoverishment by lipoids. Accidental involution of the thymus gland is accompanied by a decrease in its size and mass. In the spleen with greater consistency, proliferation of myeloid cells and reduction of lymphoid follicles, cocci embolism of blood vessels is revealed.

As the domestic authors note, for example, when analyzing the materials of the Omsk Regional Bureau of Forensic Science and Children's Presections for 5 years, it was established that septicemia in the form of septicemia is the second most frequent cause of sudden infant mortality, 21.5%. The children of the first three months of life died, and the primary septic focus was localized mainly in the umbilical vessels.

With intestinal sepsis, the primary septic focus is located in the mucosa of the small or large intestine, followed by the development of the ulcerative process, destruction of the layers of the intestinal wall and the development of peritonitis, and then sepsis.

With pulmonary sepsis, as a septic focus in 49% small-focal, then abscessed and draining pneumonia. The most frequent morphological manifestations are changes from the pleura: purulent pleurisy, fibrinous pleurisy, pyopneumotorax.

Chronic hypoxemia is complicated by pulmonary hypertension, right ventricular circulatory failure. With the development of tissue hypoxia, the content of erythrocytes in the peripheral blood increases compensatorily, which leads to polycythemia, increased thrombus formation and, as a result, to strokes, infarctions of internal organs.

The prognosis for respiratory failure depends on the etiology, degree of hypoxia and/or ischemia, age of the child, and timeliness of the care provided. The prognosis for severe respiratory failure without mechanical ventilation is unfavorable, threatening the patient's

death, with timely respiratory support - conditionally favorable, possible development of complications.

There is no specific prevention of respiratory failure. For children with chronic diseases of the respiratory tract and nervous system, it is important to receive adequate therapy for the underlying pathology.

Thus, summing up the literature review, it can be noted that the pathoanatomical diagnosis of sepsis should be based on a careful comparison of clinical and pathoanatomical data, as well as on the results of bacteriological and virological studies. Correct diagnosis is possible only on a set of changes. Otherwise, diagnostic errors can easily occur, more often they are in the direction of excessive sepsis.

Literature:

1. Cowansage K. K., LeDoux J. E., Monfils M. H. Brain-derived neurotrophic factor: from learning to memory and synaptic consolidation. Current molecular pharmacology // Curr. Mol. Pharmacol. — 2010. — Vol. 3,N 1,—P. 12—29.
2. DeKruyff F., Fang Y., Secrist H. et al. 11-4 synthesis by in vivo primed memory CD4+ T-cells // J. Clin. Immunology. - 1995.- V. 15. - P. 105-115.
3. Eck. M. J. The structure of tumor necrosis factor at resolution: implications for receptor binding // J. Biol. Chem. - 1989. - Vol. 264. - P. 17595-17605.
4. Dowes J., Gibson P., Pekkahen J., Pearce N. Nob-eosinophilic asthma: importance and possible mechanisms // Thorax. - 2002.- V. 57. - P. 643-648.
5. Erdei G., Toth P., Vasarhelyi B. New clinical entity in perinatology: fetal inflammatory response syndrome.// Orv Hetil. - 2003. - V. 144 № 31. - P. 515-519.
6. Kravchenko E.N. Dynamics and structure of perinatal mortality in a large administrative center of Western Siberia // health care. The Russian Federation. - 2006. - №6. - C. 42-44.
7. Mahmudov O.S., Pulatova R.Z., Saidova N.Z. Factors affecting the outcomes of sepsis in young children // Organizational and scientific problems of reducing infant and child mortality: Mater. Rep. scientific-practical. Conf. - Tashkent, 2007. - P. 87-89.
8. Meshcheryakov V.V. Morbidity and mortality in rural areas // Probl. soc. gig., health. and medicine. - 2007. - №4. - P. 14-17.
9. Infant mortality in the Leningrad region / N.G. Petrova, A.Ya. Grinenko, V.I. Purin, A.Yu. Okunev // Probl. soc. gig., health. and medicine. - 2005. - №1. - C. 33-35.