

IMPORTANCE OF CARRYING OUT IMMUNOHISTOCHEMICAL ASSESSMENT OF SURFACTANT PROTEIN AT THE SYNDROME OF SUDDEN DEATH OF BABIES

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Abstract: immunohistochemical researches showed that at more than a half of the children (60%), who died of a syndrome of sudden death of babies, it was observed the decrease of an expression of surfactant protein of B type. It demonstrated to high-quality changes of surfactant and corresponded to results of biophysical researches. The complex structurally functional analysis of a pulmonary tissue allows verifying the diagnosis at a syndrome of sudden death of babies and significantly reduces risk of diagnostic mistakes in the form of hypo- or hyper diagnostics in judicial medical practice.

Keywords: judicial medical examination, syndrome of sudden death of babies, mild, immunohistochemical researches, surfactant protein.

ЗНАЧИМОСТЬ ПРОВЕДЕНИЯ ИММУНОГИСТОХИМИЧЕСКОЙ ОЦЕНКИ СУРФАКТАНТНОГО БЕЛКА ПРИ СИНДРОМЕ ВНЕЗАПНОЙ СМЕРТИ МЛАДЕНЦЕВ

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Аннотация: иммуногистохимические исследования показали, что у более половины детей (60%), умерших от синдрома внезапной смерти младенцев, наблюдалось выраженное снижение экспрессии сурфактантного белка типа В. Это свидетельствовало о качественных изменениях сурфактанта и соответствовало результатам биофизических исследований. Комплексный структурно-функциональный анализ легочной ткани позволяет верифицировать диагноз при синдроме внезапной смерти младенцев и существенно уменьшает риск диагностических ошибок в виде гипо- или гипердиагностики в судебно-медицинской практике.

Ключевые слова: судебно-медицинская экспертиза, синдром внезапной смерти младенцев, лёгкие, иммуногистохимические исследования, сурфактантный белок.

The syndrome of sudden death of babies (SSDB) includes the sudden, nonviolent death of babies aged from 1 month till 1 year [3, p. 45]. At these syndrome results of the anamnesis, morphological and other laboratory researches don't allow to obtain the clear evidence about a cause of death of the baby [2, p. 313]. This problem is of great interest not only to pediatricians, but also to pathologists, forensic scientists and other experts [1, p. 13].

Immunohistochemical identification of mature surfactant protein of B type was carried out on paraffinic sections of lungs by means of the Ultra Vision complex (Thermo Scientific, USA). These researches are conducted in 10 samples of lungs at the syndrome of sudden death of babies (SSDB) (the I group), in 5 – at cases of pneumonia and acute respiratory viral infection (II group), and in 5 – at violent categories of death (the III group). Assessment of results of immunohistochemical researches was carried out in points depending on localization, intensity and prevalence of reaction product.

For identification of surfactant protein B type were used primary monoclonal antibodies of a rabbit. Assessment of results of immunohistochemical researches was carried out on the 4th point on a scale depending on localization, intensity and prevalence of reaction product. The lack of reaction product was estimated at 0 points, infrequent and a moderate staining – at 1 point, fine focal adjournment of reaction product – at 2 points, intensive and widespread adjournment of reaction product – at 3 points.

Researchers showed that surfactant protein B type is localized on the surface of alveolus, terminal bronchioles and bronchi of variations of pass. As a rule, reaction product was localized in the form of units; its diffuse distribution to surfaces of pneumatic ways became perceptible extremely seldom. In a tissue of mild babies II and III groups adjournment of surfactant protein B type is taped rather intensive and widespread (in 2-3 points). At the same time in a tissue of lungs 6 of 10 babies with a syndrome of sudden death of babies had a negative expression of surfactant protein B type or extremely low (0-1 point) in comparison with II and III groups.

Thus, immunohistochemical researches showed that at more than a half of the children (60%), who died of a syndrome of sudden death of babies, it was observed the decrease of an expression of surfactant protein of B type. It demonstrated to high-quality changes of surfactant and corresponded to results of biophysical researches.

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