THE MORPHOLOGICAL FEATURES OF THE STRUCTURE OF THE BRAIN OF NEWBORN, BORN AND DEAD AT DIFFERENT PERIODS OF PREGNANCY IN THE ATELECTATIC FORM OF PNEUMOPATHY

Jumanov Ziyadulla,
Amonova Gulafzal,
Ortikov Bobomurod
Samarkand State Medical University

ABSTRACT

In the morphological and morphometric study of the brain structures of newborns who died from the atelectatic form of pneumopathy, it was found that the ratio of vascular and perivascular spaces at 22-25 weeks was 4.28±0.18 μm, at 26-28 weeks - 4.61±0 .18 μm, 4.68±0.19 μm in the period of 29-31 weeks, 5.0±0.23 μm in the period of 32-36 weeks. Children born with this disease, who lived and died at different times, had cerebral vessels and the mutual ratio of the perivascular space was 3.82 ± 0.12 microns in terms of 1-5 days, 3.8 ± 0.2 microns in terms of 6-10 days, 3.79±0.2 μm in terms of 11-15 days, 16 - 20 days. In daily children, it was 3.86±0.2 μm, and in the period of 21-25 days - 3.92±0.19 μm, and in children who lived for 25 days or more, this figure was 3.94±0, 15 μm.

Keywords. *Atelectasis, pneumopathy, cranial, morphological changes.*

ПНЕВМОПАТИЯНИНГ АТЕЛЕКТАТИК ШАКЛИ БИЛАН ЭРТА ТУҒИЛГАН ЧАҚАЛОҚЛАР БОШ МИЯ ТУЗИЛМАЛАРИДАГИ МОРФОЛОГИК ЎЗГАРИШЛАРНИНГ ТУҒИЛГАН МУДДАТЛАРИГА ХОС ЖИҲАТЛАРИ

Жуманов Зиядулла,
Амонова Гулафзал,
Ортиқов Бобомурод
Самарқанд давлат тиббиёт университети

АННОТАЦИЯ

Пневмопатиянинг ателектатик шаклидан вафот этган янги туғилган чақалоқлар бош мия тузилмалари морфологик ва морфометрик текширилганда 22-25 ҳафталик муддатларда қон томир ва периваскуляр бўшлиқнинг ўзаро нисбати 4,28±0,18 мкм ни, 26-28 ҳафталик муддатларда эса 4,61±0,18 мкм ни, 29-31 ҳафталик даврида 4,68±0,19 мкм ни, 32-36 ҳафталик даврида 5,0±0,23 мкм эканлиги аниқланган бўлса, ушбу касаллик билан туғилиб турли муддатларда яшаб вафот этган чақалоқлар бош миясидаги қон томир ва

периваскуляр бўшлиқнинг ўзаро нисбати 1-5 кунлик муддатда 3,82±0,12 мкм ни, 6-10 кунлик даврда 3,8±0,2 мкм ни, 11-15 кунлик даврда 3,79±0,2 мкм ни, 16-20 кунлик чақалоқларда 3,86±0,2 мкм ни, 21-25 кунлик даврида эса 3,92±0,19 мкм ни ташкил этган бўлса, 25 кун ва ундан ортиқ яшаган чақалоқларда бу кўрсаткич 3,94±0,15 мкм га тенг эканлиги аниқланди.

Kalit so'zlar. *Atelektaziya, pnevmopatiya, kranial, morfologik o'zgarishlar.*

МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ СТРУКТУРЫ ГОЛОВНОГО МОЗГА НОВОРОЖДЕННЫХ, РОДИВШИХСЯ И УМЕРШИХ НА РАЗНЫХ СРОКАХ БЕРЕМЕННОСТИ ПРИ АТЕЛЕКТАТИЧЕСКОЙ ФОРМЕ ПНЕВМОПАТИИ

Жуманов Зиядулла,
Амонова Гулафзал,
Ортиков Бобомурод
Самаркандский государственный медицинский университет

АННОТАЦИЯ

При морфологическом и морфометрическом исследовании структур головного мозга новорожденных, умерших от ателектатической формы пневмопатии, установлено, что соотношение сосудистого и периваскулярного пространств в 22-25 недель составило 4,28±0,18 мкм, в 26-28 недель - 4,61±0,18 мкм, 4,68± 0,19 мкм в сроке 29-31 нед., 5,0±0,23 мкм в сроке 32-36 нед. У детей, родившихся с этим заболеванием, живших и умерших в разные сроки, были сосуды головного мозга и взаимное отношение периваскулярного пространства составило 3,82±0,12 мкм в сроки 1-5 суток, 3,8±0,2 мкм в сроки 6-10 суток, 3,79±0,2 мкм в сроки 11-15 суток, 16 - в 20-сутки. У суточных детей он составил 3,86±0,2 мкм, а в период 21-25 дней - 3,92±0,19 мкм, а у детей, проживших 25 дней и более, этот показатель составил 3,94±0,15 мкм.

Ключевые слова. *Ателектаз, пневмопатия, краниальные, морфологические изменения.*

Currently, the proportion of this disease in the total amount of newborns is 6-12%. In 25-80% of babies born without maturation in the early neonatal period, it is noted that respiratory disorders lead to a aggravation of their general condition and negative consequences [2, 3].

Among the morphological manifestations of pneumopathy in the territory of the CIS states, the presence of hyaline membranes has been found to be aspiration of amniotic fluid into the respiratory tract, diffuse atelectasis and massive blood

transfusions into lung tissue. In the literature, the respiratory disorder syndrome is classified into two types, with the first type including hyaline membranes. This type accounts for 50-70% of neonatal deaths in the United States due to unattainable births. The second type includes aspiration syndrome, diffuse atelectasis, and massive blood transfusions into lung tissue. Pneumopathy has been classified into nosological forms such as primary pulmonary atelectasis, hyaline membranes, massive blood transfusion into the lungs, and aspiration syndrome. These forms are defined as noninfective pathological processes in the lungs [1, 4].

The purpose of the study. the atelectatic form of pneumopathy consists in detecting morphological and morphometric changes in cranial structures in infant mortality.

Research material and methods. In the Department of pathological anatomy of the multidisciplinary clinic of Samarkand State Medical University, a study was carried out using macroscopic, microscopic, morphometric, microphotography and statistical research methods of the cranial structures of 281 infants (1st group of 138 newborns, 2nd group of 143 living and deceased infants) who underwent pathologoanatomic examination.

Discussion of the results obtained. The results of the study show that neonatal cranial structures that have died from the atelectatic form of pneumopathy have been shown by morphological and morphometric examinations to have a vascular - perivascular space interventional ratio of 4.28±0.18 μm at 22-25 weeks, 4.61±0.18 μm at 26-28 weeks, 4.68±0.19 μm at 29-31 weeks, 5.0±0.23 μm at 32-36 weeks we can see that he did [5,7] (listed in Table 1).

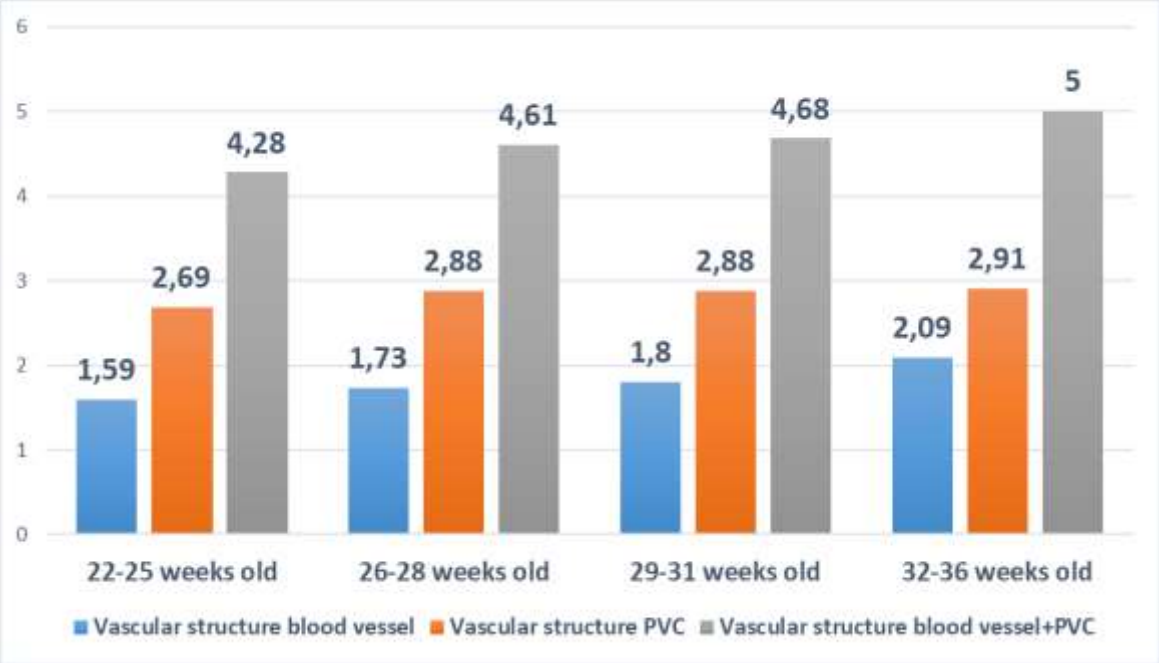

Table 1.The ratio of areas occupied by cranial blood vessels and PVC(%)

Analysis of changes in cranial structures in infants born and died at various times with the atelectatic form of pneumopathy shows that the ratio of vascular to perivascular space is 3.82±0.12 µm in 1-5 days, 3.8±0.2 µm in 6-10 days, 3.79±0.2 µm in 11-15 days, 3.86±0.2 µm in 16-20 days bats, and 3.92 µm in 21-25 days while±0.19 µm was found in infants who lived 25 days or more, the rate was found to be 3.94±0.15 µm [5.6.8] (shown in Table 2).

Table 2

The ratio of vascular and PVC occupied areas in the vascular structure of the brain (%)

Lived duration	Vascular structure		
	Blood vessel	PVC	Blood vessel + PVC
1-5 days	2,39±0,1	1,43±0,11	3,82±0,12
6-10 days	2,42±0,1	1,38±0,1	3,8±0,2
11-15 days	2,46±0,1	1,33±0,1	3,79±0,2
16-20 days	2,59±0,1	1,27±0,1	3,86±0,2
21-25 days	2,78±0,11	1,14±0,08	3,92±0,19
From 25 days	2,88±0,09	1,06±0,06	3,94±0,15

CONCLUSION.

At different periods of pregnancy, the morphometric indicators of cranial cortex neurons of babies born and died with the atelectatic form of pneumopathy varied, morphologically, changes in the ischemic type and the glial reaction manifested more strongly in the late periods of childbirth. Ischemic changes were more common in neurons compared to blood vessels.

The atelectatic form of pneumopathy can use the perineuronal and perivascular cavity expansion ratio in the cranial hemisphere cortex and longitudinal brain as a criterion for assessing the birth rate of tanatogenesis at different times, as their dimensions increase in parallel. The dynamics of destructive disorders in the head and longitudinal brain neurons and blood vessels are additional criteria for assessing the length.

REFERENCES

1. Загорулько А.К., Новиков Н.Ю.Антиоксидантная и заместительная сурфактантная терапия // 9-й Национальный конгресс по болезням органов диксания: диссертация докл.- М.,1999.- С.340.

2. Kulakova V. I. Perinatalny audit PRI predevremennix rodax. M.: Edinburgh, 2005. c. 224.
3. Orinbasarov S.O., Nadeev A.P. Structure perinatalnoy letalnosti I patomorphologicheskaya characteristic zabolevani legkix U novorojdennix V Regione Priaralya / / Medisina I obrazovanie V Sibiri: setevoe nauchnoe izdanie NGMU. -30.12.2014. URL: http://www.ngmu.ru/cozo/mos / article/text_full.phpid=1599.
4. Pavlović S.V. Antenatalnaya prophylactic respiratornogo distress-syndroma novorojdennix / / Obstetrics. igin. 2011. № 3. S. 81–85.
5. Jumanov Z.E., Amonova G.U. Methods of examining the morphology of cranial structures in babies born and died of various periods of life with an atelectatic form of pneumopathy // methodological recommendation. - Tashkent, 2023. - 39 PP.
6. Jumanov Z.E., Amonova G.U. Aspects of morphological changes in the cranial structures of newborns who died from the atelectatic form of pneumopathy // Journal Vestnik vracha. - Samarkand, 2022. - STR. 137-140.
7. Amonova G.U. Republican scientific and practical conference on the topic of pathomorphology of the nervous structure of the cranial brain of infants who died from the atelectatic form of pneumopathy // application of highly innovative technologies in Preventive Medicine. Andijan State Medical institute, 10-11 June 2022. - C. 1072-1073.
8. Amonova G.U. Morphological aspects of the cranial structures of newborns who died from the atelectatic form of pneumopathy, by their length of life / / 4-s'ezd pathologoanatomov Uzbekistana s Mezhdunarodnim uchastiem, posvyatshenny 90-letiyu Akademika M.S. Abdullakhodjaeva, 28-29 November 2022 G. - S. 176-177.