POSTNATAL ONTOGENETIC DEVELOPMENT STAGES OF THE BRONCHI IN CHILDREN OF DIFFERENT AGES IN THE SECOND CHILDHOOD

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Abstract. *After the trachea, the bronchial tree begins, branching 23 times over the distance to the alveoli, forming the branches of the bronchial tree. The bronchial tree is a special ventilation system in humans, which becomes smaller and narrower as it reaches the lungs, and the respiratory bronchioles connect to the alveoli. The narrowing of these tree-like structures to this extent ensures that air reaches the alveoli easily and completely during breathing. Respiratory laws are provided by tissue structures on the wall of the bronchi: the covering epithelium and their secretions clean and warm the air from the foreign bodies, the glands in the mucous membrane synthesize a mucus substance, absorb the foreign bodies contained in the air, the smooth muscle layer ensures that the amount of air entering the bronchial cavity, its level of penetration into the alveoli The cartilaginous rings of the trachea ensure that the bronchial tubes maintain a tubular structure and do not stick together during exhalation. These physiological processes take place from the birth of a child to the age of one year to ensure the growth of the body, the speed of breathing, the amount of air entering the lungs, the content of which regularly develops and evolves to carry out purification from foreign bodies.*

Key words: *Bronchial tree, morphological changes, control group, children.*

TURLI YOSHDAGI IKKINCHI BOLALIK DAVRIDA BOLALARDA BRONXLARNING POSTNATAL ONTOGENETIK RIVOJLANISH BOSHQICHLARI

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Annotatsiya. *Nafas yo‘llaridagi hiqqildoqdan keyin bronxlar daraxti boshlanadi va u alveolalargacha bo‘lgan masofada 23 marta tarmoqlanib, bronxlar daraxtining shoxlarini paydo qiladi. Bronxlar daraxti insonda maxsus ventilyatsiya tizimi bo‘lib, o‘pkaga yetguncha kichiklashib, torayib boradi va respirator bronxiolalar alveolalarga tutashadi. Ushbu daraxtga o‘xshash tuzilmalarning bunday darajada torayib borishi nafas olishda xavoning alveolalarga oson va to‘liq holda yetib borishini ta’minlaydi. Nafas olish qonuniyatlarini bronxlar devoridagi to‘qima tuzilmalari ta’minlaydi: qoplovchi epiteliy va ularning ajratmalari xavoni yot tanachalardan tozalab, isitib beradi, shilliq osti qavatidagi bezlar shilimshiq modda sintezlab, xavo tarkibidagi yot tanachalarni o‘ziga shimib oladi, silliq mushak qavati bronxlar bo‘shlig‘iga kirgan xavoning miqdorini, uning alveolalarga kirib borish darajasini meyorda bo‘lishini ta’minlaydi. Tog‘ay xalqalari bronxlarning naysimon tuzilish holatini ta’minlab, nafas chiqarishda yopishib qolmasligini ta’minlaydi. Bu fiziologik jarayonlar bola tug‘ulgandan boshlab, bir yoshgacha bo‘lgan davrda organizmning o‘sib rivojlanishini ta’minlash uchun nafas olishning tezligi, o‘pkaga kiradigan xavoning miqdorini, uning tarkibidagi yot tanachalardan tozalashni amalga oshirish uchun muntazzam ravishda rivojlanib, takomil topib boradi.*

Kalit so‘zlar: *bronxial daraxt, morfologik o‘zgarishlar, nazorat guruhi, bolalar.*

ЭТАПЫ ПОСТНАТАЛЬНОГО ОНТОГЕНЕТИЧЕСКОГО РАЗВИТИЯ БРОНХОВ У ДЕТЕЙ В РАЗНОМ ВОЗРАСТЕ ВТОРОГО ДЕТСТВА

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Аннотация. *Бронхиальное дерево представляет собой особую систему вентиляции у человека, которая сужается и уменьшается в размерах по мере приближения к легким, а респираторные бронхиолы соединяются с альвеолами. Закономерности дыхания обеспечивают тканевые структуры стенок бронхов: выстилающий эпителий и их отслоения очищают воздух от инородных тел и согревают его, железы подслизистой оболочки синтезируют слизистое вещество и поглощают инородные Тельца, содержащиеся в воздухе, гладкомышечный слой обеспечивает критерием количество воздуха, поступающего в полость бронхов, степень его проникновения в альвеолы. Кольца хрящей поддерживают трубчатую структуру бронхов, предотвращая их закупорку при выдохе. Эти физиологические процессы развиваются и совершенствуются систематически с момента рождения ребенка, в период до года, чтобы обеспечить рост и развитие организма, скорость дыхания, количество воздуха, поступающего в легкие, для осуществления очищения его от инородных тел. Эти физиологические процессы развиваются и*

совершенствуются систематически с момента рождения ребенка, в период до года, чтобы обеспечить рост и развитие организма, скорость дыхания, количество воздуха, поступающего в легкие, для осуществления очищения его от инородных тел.

Ключевые слова: *бронхиальное дерево, морфологические изменения, контрольная группа, дети.*

The average air capacity of the respiratory tract is 150-170 ml. This capacity varies from year to year, depending on the diameter of the airways on the elasticity of muscle fibers to the structure of the walls of them, and on the packaged hoses in it, the connective tissue with lashes, as well as the mucous membrane and mucosal glands in them. Under the epithelial floor in the wall of the bronchi is a private plate, the thickness of which is 50-100 nm, it is made of collagen fibers and glycosaminoglycans, which has the property of permeability of substances in internal mucitis. This part is the site of passage of lymphocytes and other immune cells into the inner epithelial part. This does not happen at birth, but as soon as pathogenic microorganisms enter the respiratory tract with air, the immune system begins to develop in children of early age.

Purpose of the research: study of postnatal ontogenetic development of the bronchi in children of different ages in the second childhood.

Materials and methods: The appearance of the bronchi was carefully studied, the shape, color, the existing changes in it, that is, the right and left lung structure of babies, the location of the bronchi, the weight was measured, the coefficient of the child born was found, the diameter, thickness and length of the pulmonary bronchi of the trachea and extradrum were measured. For microscopic examinations, the fragments cut from the bronchi were hardened in a 10% neutralized solution of formalin for 72 hours, then washed in running water, transferred from alcohols with an increased concentration for dehydration, and blocks were prepared by pouring paraffin. Of these, 5-8 μm thick incisions were made, and the overall histological structure was studied by staining the hematoxylin-eosin dye, trachea, bronchi on the mucosa, mucosa, fibrosis-bottom, advential layers of connective tissue fibers in the Van-Gison method, and mucopolysaccharide Schick reaction method, a carbohydrate substance. The sections were examined under a light microscope from the Leyka firm and micrographs were taken from the required areas. 1. Hematoxylin and eosin stain This dye is widely used in staining histological micropreparations. Paraffin is removed from the sections obtained from paraffin bricks by immersing them in chloroform and after washing in water, hematoxylin dye is dropped onto them and held for 3 minutes. The hematoxylin is washed in water for 10 minutes and is then fixed in eosin for 0.2 to 3 minutes, depending on the staining time. The sections are immersed in alcohols with a concentration of 70o to 96o, drained of water, bleached with carbol-xylene, and sealed with balsam. Result: the cell nucleus is stained blue, the cytoplasm is stained purple.

Results: The smooth muscle layer of the bronchial wall was conversely observed to begin at one month in the early postnatal period and become more regularly thickened in its later months by increasing both the number and size of muscle cells, from 10.5±1.5% in one month to 4% by the age of 12 and reaching 14.6±1.5%. One of the most important structures in the respiratory tract during the early postnatal period of children is the mucous gland structures, which synthesize mucus. Our research results show that, both morphologically and morphometrically, these glands grow and multiply in the dynamics of the early postnatal period, and their occupied area also increases. At the age of 9 years, it was found that the bronx wall occupied a third of the area of all layers, that is, 31.0±2.3% of the space. It was found that the next period of examination, that is, at the age of 10, reached 32.4±2.3%, at the age of 11, 34.6±2.3%, and at the age of 12, 36.4±2.4%. Thus, in general, by the end of the early postnatal period, an expansion of the area by 5.5% was observed. It was found that the relative area occupied by the cartilage of the bronchial wall was 38.0±2.4% of the area of all layers in the first month of the study. The reason why the togai people occupy a relatively wide area is that when histological examination of it, it was found that chondrocyte cells in the composition did not find age and good evolution, as a result of which it was relatively large, since the chondroid substance between it was relatively light-colored and the swelling process prevailed, the area of the togai In the following months of the early postnatal period, both cells and intermediate chondroid matter in the lower sac were found to have condensed and shrunk the area they occupied as they were able to locate and differentiate tachomyl, and by the age of 12 were found to occupy 29±2.2% of the space.

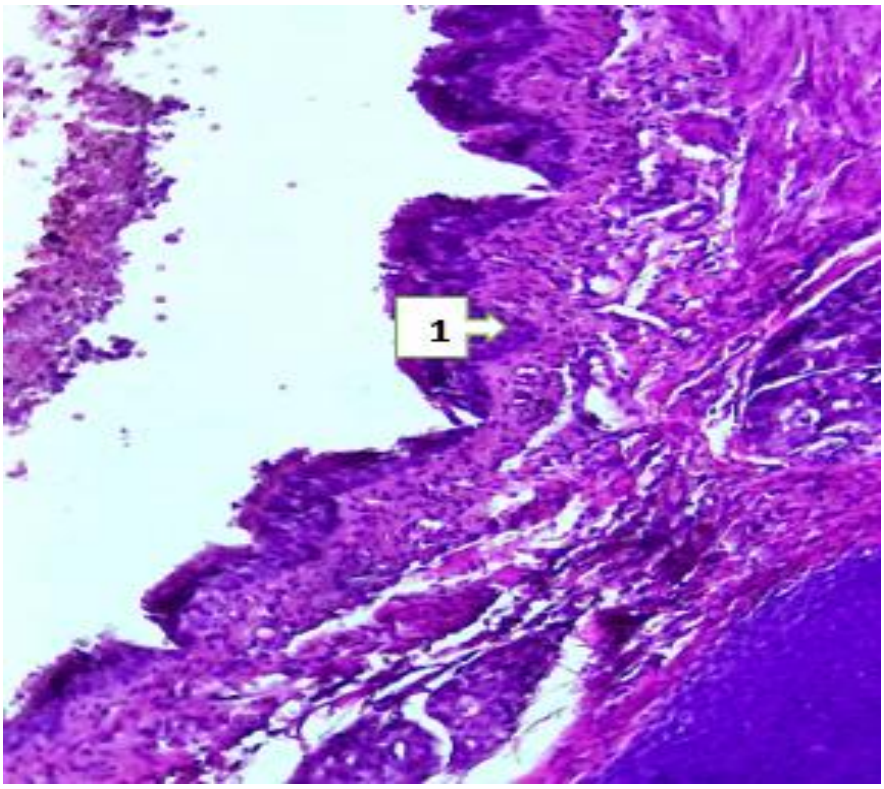


Figure 1. **Bronchi of a child, age 11. 1- Covering epithelium on the bronchial wall**

It was observed that the layers of the bronchial wall, or throat, grew rapidly in children aged 9 years. It was found that the tissue of the tonsil of the Bronx became denser, the substance of the tonsil increased, its cells decreased, the chondrocytes contained in it formed at a higher level than in previous periods, decreased compared to the intermediate chondroid substance, the connective tissue Tufts around it became denser. The submucosal layer was found to be expanded, rarefied, and to contain an increased number of connective tissue fibers and cells compared to the previous period. The mucous membrane is relatively thick, and the epithelium covering its surface has a single-layered structure. The mucous membrane of the bronchi was preserved thin, thin, the glandular cells in them, well developed in comparison with the previous period, were slightly swollen and enlarged, the covering epithelium was observed to contain a large number of smooth epithelia with a surface relative to the ciliated epithelium. The height of the covering epithelial cells was smaller than in the previous period, they were prismatic in shape, their nuclei were more disordered, and the nuclei of most of them did not touch the basal layer, and were round and oval in shape. At the age of 11 years of age in children, it was observed that the folds on the mucous membrane of the bronchi were completely lost, the folds were flattened compared to the previous period, the covering epithelium was relatively mature, the hematoxylin and eosin were dyed, the presence of a dark eosinophilic area in the apical part of the cells, reminiscent of a multi-row epithelium It was found that during the 12th year of life, the connective tissue plate of the bronchial mucosa was denser than in the previous period, and the content of fibrous structures increased. The number of small blood vessels in the private plate was observed to increase and expand by this time (see Figure 1).

Conclusion. 1. The biliary bronchiole wall layers were formed from an incomplete state at a young age of children and were found to have a tactile finding State, a covering epithelium with folds, biliary cells smoothed from a low state, biliary cells into a multi-state, a private plate formed with fibers from a swollen, unformed connective tissue and muscle handles arranged in order.

2. At a young age, it was proven that the wall of the terminal bronchioles is semicircular, with a one-story cylindrical epithelium on one side, the other side is in a state adjacent to the alveoli, improved at the age of two, the covering epithelium turns into a prismatic type, a one-to-one junction consisting of connective tissue and muscle fibers, the private plate of which.

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