МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
03, 05, 10 лютого 2025 року

Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2025 році №1005249

Чернівці – 2025

УДК 61(063)
М 34

Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

Загальна редакція: професор Геруш І.В., професорка Годованець О.І., професор Безрук В.В.

Наукові рецензенти:
професор Батіг В.М.
професор Білоокий В.В.
професор Булик Р.Є.
професор Давиденко І.С.
професор Дейнека С.Є.
професорка Денисенко О.І.
професор Заморський І.І.
професорка Колоскова О.К.
професорка Кравченко О.В.
професорка Пашковська Н.В.
професорка Ткачук С.С.
професорка Тодоріко Л.Д.
професорка Хухліна О.С.
професор Чорноус В.О.

ISBN 978-617-519-135-4

Boichuk O.M.

FEATURES OF THE BLOOD SUPPLY OF THE NASAL CAVITY IN ADOLESCENCE

Mykola Turkevych Department of Human Anatomy
Bukovinian State Medical University

Introduction. The blood supply to the mucous membrane of the nasal cavity in adolescence has a number of features caused by physiological changes that occur in the body in this period of human development. The structure of the nasal cavity may differ in boys and girls, which is reflected in the differences and features of its blood supply, since the vessels may have different size and distribution. In adolescence, there is an active growth and development of the vascular network, which provides better nutrition of the mucous membrane and increases its functionality. The hormonal background of adolescents affects the tone of blood vessels, in particular estrogens in girls and testosterone in boys change the lumen of blood vessels and their reaction to external stimuli.

The aim of the study. Find out the changes in the structure and topographic anatomical relationship of the vessels that supply the nasal cavity and adjacent structures in adolescence.

Materials and methods. The study was performed on 6 preparations of the facial area of biomanekens and 15 magnetic resonance imaging of the heads of young people. A series of histological sections from the museum of Mykola Turkevych Department of Human Anatomy of Bukovinian State Medical University were also used for the study.

Results. Examination of the place of departure of the main vessels and the nature of their branching in the walls of the nasal cavity showed that the anterior and posterior lattice arteries originate from the eye artery. On most drugs, the posterior trellis artery envelops the optic nerve from below and from the outside. Topically, it starts from the eye artery at an acute angle. Depending on the number of cells of the lattice labyrinth, the posterior lattice artery is divided into second-order branches according to the placer type. The anterior lattice artery begins from the optic artery after its intersection with the optic nerve, in the cellular space between the anterior straight and upper oblique muscles of the eyeball. In most cases, the artery of the branches does not give up before entering the anterior lattice cells.

Both the anterior and posterior lattice arteries penetrate into the upper wall of the nasal cavity through lattice openings. Then they are dichotomously divided into second-order branches (lateral and medial).

The lateral branch passes in a downward direction along the lateral wall of the nose closer to the solid skeleton. The middle branch almost horizontally reaches the nasal septum, and then takes a downward direction. Each of these branches in the upper third of the lateral wall of the nose and nasal septum is divided into 5-8 branches of the third order, which fan out, and are divided into branches of the following orders. Their numerous branches are directed to the mucous membrane of the cells of the lattice labyrinth and 2/3 of the mucous membrane of the lateral wall of the nose and nasal septum.

The sphenopalatine artery enters through the sphenopalatine foramen into the posterior part of the nasal cavity, where it gives 2-4 branches to the lateral wall of the nose and one large – the posterior artery of the nasal septum – to the nasal septum.

The posterior artery of the nasal septum on all preparations has a horizontal direction, enters the posterior part of the nasal septum, where it is dichotomously divided into second-order branches: upper and lower. The upper is directed in advance, it is divided into tertiary branches, which anastomose with the posterior lattice arteries. The lower branch is located closer to the lower edge of the nasal septum and gives branches of the third order, which anastomose with each other and form loops of various shapes and sizes. In addition, arterial branches give numerous thin branches to the epithelial lining, which connect and form a fairly dense vascular network.

Conclusions. The greatest concentration of arterial vessels is found in the anterior part of the nasal septum, where the branches of the anterior lattice artery mainly branch, and anastomoses are formed with the posterior lattice artery and the posterior artery of the nasal septum.

Topographically, the smallest network of blood vessels is located most superficially, then vessels of medium diameter and the largest branches of lattice arteries are located most deeply.

Emelianenko N.R.

MORPHOGENESIS OF THE NASAL SEPTUM IN THE PREFETAL PERIOD OF HUMAN ONTOGENESIS

Mykola Turkevych Department of Human Anatomy
Bukovinian State Medical University

Introduction. Despite the fact that the period of intrauterine development is relatively short, the transformations of the body during this time are much more significant than during the entire subsequent life. Therefore, it is important to study the structure of organs and systems in connection with the main processes of morphogenesis, based on the data of embryogenesis. The problem of antenatal protection of the nasal area is especially important at the present time, when the harmful influence of the external environment, including environmental and other natural (chemical, physical) factors, has increased significantly. Their influence is reflected on the development of the embryo as a whole and on the embryogenesis of the peripheral part of the olfactory analyzer in particular.

The aim of the study. To study the topographical and anatomical features of the structures of the nasal septum in the prenatal period of human ontogenesis.

Material and methods. The study was conducted on 10 samples of dead prefetuses without any external signs of anatomical deviations or abnormalities. In the process of conducting the research up-to-date adequate anatomical and morphostatistical methods were combined with the estimated probability of the obtained results including macro- and micropreparations under the control of microscope, injection of vessels with further preparation, contrast angiography and morphometry.

Results. The beginning of the nasal septum is represented by mesenchyme, covered from the outside by a tall cylindrical epithelium, the nuclei of which have a spherical or oval shape and are located in 4-6 rows. The thickness of the epithelium ranges from 36±2.0 μm (in its upper part). In the central part of the lining of the nasal septum, mesenchyme cells are located more densely, forming a conglomerate that has the shape of a wedge on frontal sections, the top of which is turned downwards. Its transverse size at the base (from above) is 220±10.0 μm, in the middle part – 110±6.0 μm, in the tip area – 80±5.0 μm, vertical – up to 880±25.0 μm. The aforementioned conglomerate of mesenchymal cells extends in the anterior-posterior direction along the entire nasal septum. In its middle third, the distal end of the conglomerate forms a mace-like expansion. As it approaches the rear part of the nasal septum, in parallel with the decrease in the height of the nasal septum as a whole, the height of the conglomerate also decreases. Between the layer of epithelium and the aforementioned formation is a layer of loosely arranged mesenchymal cells, the thickness of which does not exceed 240±5.0 μm. At a distance of 220±4.0 μm from the lower edge of the nasal septum, the beginning of Jacobson's organ is located. The thickness of the nasal septum does not exceed 836±20.0 μm. Its largest vertical size reaches 990 μm. The posterior end of the septum, gradually decreasing, passes into the upper wall of the primary oral cavity. It should be noted that the front and middle thirds of the nasal septum are fused with the primary palate, and its rear part hangs freely in the primary oral cavity. At this time, the further development of blood vessels takes place – the separation of blood elements from the surrounding mesenchyme with the help of the endothelium becomes clearer, and the formation of a subepithelial blood network begins in pre-fetuses with a length of 15.5-16.0 mm, which in pre-fetuses at the end of the 7th week of development (length 19.5-20.0 mm) is represented by capillary-type vascular trunks with a diameter of 8±0.5 μm. At this stage of intrauterine development, larger vessels growing from the outside are clearly visible. The anterior ethmoid artery goes downward in the mesenchymal layer of the upper wall of the primary nasal cavity. Its diameter is 20±1.0 μm.

Conclusions. During the prenatal period of development, as a result of the formation of the secondary palate, the final separation of the nasal cavity from the oral cavity occurs. Nasal conchae