THE STRUCTURE, AGE FEATURES, AND FUNCTIONS OF HORMONES.

Худойкулова Фарида Вафокуловна
Ибрагимова Малика Шавкатовна
Равшанова Мафтуна Зохиджоновна
Бурханова Гульноза Лутфиллоевна
Абдухамидова Дилшода Халимовна
Samarkand state medical university

Abstract: *The endocrine glands are functionally closely related to each other, and the defeat of one gland causes a dysfunction of other glands.Hormones. Specific active substances produced by the endocrine glands are called hormones (from the Greek horman - to excite). Hormones have a high biological activity.*

Keywords: *genital, parathyroid or parathyroid glands, thymus (goiter) gland.*

Hormones are relatively quickly destroyed by tissues, therefore, to ensure a long-term effect, their constant release into the blood is necessary. Only in this case it is possible to maintain a constant concentration of hormones in the blood. Hormones act on metabolism, regulate cellular activity, promote the penetration of metabolic products through cell membranes. Hormones affect respiration, circulation, digestion, excretion; reproductive function is associated with hormones.

The growth and development of the body, the change of different age periods are associated with the activity of the endocrine glands.

The pituitary gland is a small oval-shaped formation located at the base of the brain in the deepening of the Turkish saddle of the main bone of the skull.There are anterior, intermediate and posterior lobes of the pituitary gland. According to the International Anatomical Nomenclature, the anterior and intermediate lobe is called the adenohypophysis, and the posterior lobe is called the neurohypophysis.

Under the influence of releasing factors, tropic hormones are released in the anterior pituitary gland: somatotropic, thyrotropic, adrenocorticotropic, gonadotropic. Endocrine glands include: pituitary gland, pineal gland, pancreas, thyroid gland, adrenal glands, genital, parathyroid or parathyroid glands, thymus (goiter) gland. The human endocrine glands are small in size, have a very small mass (from fractions of a gram to several grams), and are richly supplied with blood vessels. Blood brings to them the necessary building material and carries away chemically active secrets. An extensive network of nerve fibers approaches the endocrine glands, their activity is constantly controlled by the nervous system.

Somatotropin, or growth hormone, causes the growth of bones in length, accelerates metabolic processes, which leads to increased growth, an increase in body weight. The lack of this hormone is manifested in short stature (height below 130 cm), delayed sexual development; body proportions are preserved. An excess of growth

hormones in childhood leads to gigantism. The medical literature describes giants who had a height of 2 m 83 cm or even more (3 m 20 cm). impossible. Then acromegaly develops: the hands and feet increase, the bones of the facial part of the skull (they ossify later), the nose, lips, chin, tongue, ears grow intensively, the vocal cords thicken, which makes the voice rough; the volume of the heart, liver, gastrointestinal tract increases.

Adrenocorticotropic hormone (ACTH) affects the activity of the adrenal cortex. An increase in the amount of ACTH in the blood causes hyperfunction of the adrenal cortex, which leads to metabolic disorders, an increase in the amount of sugar in the blood. Itsenko-Cushing's disease develops with characteristic obesity of the face and trunk, excessively growing hair on the face and trunk; often at the same time, women grow a beard and mustache; blood pressure rises; bone tissue is loosened, which sometimes leads to spontaneous bone fractures.

The adenohypophysis also produces a hormone necessary for the normal function of the thyroid gland (thyrotropin).

Several anterior pituitary hormones affect the function of the gonads. These are gonadotropic hormones. Some of them stimulate the growth and maturation of follicles in the ovaries (follitropin), activate spermatogenesis. Under the influence of lutropin, women ovulate and form a corpus luteum; in men, it stimulates the production of testosterone. Prolactin affects the production of milk in the mammary glands; with its deficiency, milk production decreases.

Of the hormones of the intermediate lobe of the pituitary gland, the most studied is the melanophoric hormone, or melanotropin, which regulates the color of the skin. This hormone acts on skin cells that contain pigment granules. Under the influence of the hormone, these grains spread throughout all the processes of the cell, as a result of which the skin darkens. With a lack of a hormone, colored pigment grains gather in the center of the cells, the skin turns pale.

In the period preceding puberty, the secretion of gonadotropic hormones is significantly increased, reaching a maximum during puberty.

The adrenal glands are a paired organ; they are located in the form of small bodies above the kidneys. The mass of each of them is 8-30 g. Each adrenal gland consists of two layers of different origin, different structure and different functions: outer - cortical and inner - cerebral. More than 40 substances belonging to the group of steroids have been isolated from the cortical layer of the adrenal glands. These are corticosteroids or corticoids.There are three main groups of hormones of the adrenal cortex: a) glucocorticoids - hormones that act on metabolism, especially carbohydrate metabolism. These include hydrocortisone, cortisone, and corticosterone. The ability of glucocorticoids to suppress the formation of immune bodies was noted, which gave reason to use them in organ transplantation (heart, kidneys). Glucocorticoids have an anti-inflammatory effect, reduce hypersensitivity to certain substances;

b) mineralocorticoids. They regulate mainly mineral and water metabolism. The hormone of this group is aldosterone. c) androgens and estrogens are analogues of male and female sex hormones. These hormones are less active than the hormones of the sex glands and are produced in small quantities.

The adrenal glands from the first weeks of life are characterized by rapid structural transformations. The development of the adrenal cortex proceeds intensively in the first years of a child's life. By the age of 7, its width reaches 881 microns, at the age of 14 it is 1003.6 microns. The adrenal medulla at the time of birth is represented by immature nerve cells. They quickly differentiate during the first years of life into mature cells, called chromophilic, as they are distinguished by the ability to stain yellow with chromium salts. These cells synthesize hormones, the action of which has much in common with the sympathetic nervous system - catecholamines (adrenaline and norepinephrine). Synthesized catecholamines are contained in the medulla in the form of granules, from which they are released under the action of appropriate stimuli and enter the venous blood flowing from the adrenal cortex and passing through the medulla. Stimuli for the entry of catecholamines into the blood are excitation, irritation of sympathetic nerves, physical activity, cooling, etc. The main hormone of the medulla is adrenaline, it makes up approximately 80% of the hormones synthesized in this section of the adrenal glands. Adrenaline is known as one of the fastest acting hormones. It accelerates the circulation of blood, strengthens and speeds up heart contractions; improves pulmonary respiration, expands the bronchi; increases the breakdown of glycogen in the liver, the release of sugar into the blood; enhances muscle contraction, reduces their fatigue, etc. All these effects of adrenaline lead to one common result - the mobilization of all the forces of the body for hard work. Increased secretion of adrenaline is one of the most important mechanisms of restructuring in the functioning of the body in extreme situations, during emotional stress, sudden physical exertion, and cooling.

A significant increase in the functional stress of the adrenal glands is observed by the age of 6 and during puberty. At the same time, the content of steroid hormones and catecholamines in the blood increases significantly.

LITERATURE:

1. Рахимова Хидоят Мамарасуловна, Хакимова Лейла Рафиковна, Аблакулова Муниса Хамрокуловна, Абдухамидова Дилшода Халимовна Современные аспекты по улучшению качества ведения больных с патологией эндокринных органов в условиях первичного звена медицинской помощи // Достижения науки и образования. 2019. №10 (51). URL:

https://cyberleninka.ru/article/n/sovremennye-aspekty-po-uluchsheniyu-kachestva-vedeniya-bolnyh-s-patologiey-endokrinnyh-organov-v-usloviyah-pervichnogo-zvena

2. ХМ Рахимова, НЭ Сулаймонова-Оптимизация методов лечения дисметаболического хронического пиелонефрита у детей.- Здоровье, демография, экология финно-угорских …, 2019. https://www.elibrary.ru/item.asp?id=38230065

3. N.E..Suleymanova, X.M.Raximova yurak qon tomir kasalliklari asoratlari profilaktikasida ko ‘rsatiladigan tibbiy xizmat sifatini baholash- Журнал кардиореспираторных исследований, 2022. https://tadqiqot.uz/index.php/cardio/article/view/5582 https://tadqiqot.uz/index.php/cardio/article/view/5582/5284

4. Rakhimova Kh.M, Soleeva S. Sh-Improving the quality of type 2 diabetes control based on pen protocols among the population. http://dx.doi.org/10.5958/2249-7137.2022.00176.8

5. Khusinova Sh.A. Rakhimova Kh.M. Khakimova L.R. Yuldashova N.E. Abdukhamidova D.Kh..assessment of the prevalence and quality of care of patients with heart failure in primary care. https://thematicsjournals.in/index.php/tjed/article/view/1144 https://thematicsjournals.in/index.php/tjed/article/view/1144/1150

6. Khusinova Shoira AkbarovnaRakhimova Khidoyat MamarasulovnaKhakimova Leyla RafikovnaYuldashova Nadira EgamberdievnaAbduxamidova Dilshoda Khalimovna- review of the course and treatment features of covid-19 patients with concomitant cardiovascular disease. Published 2022-06-25. Vol. 11 No. 2 (2022). https://www.ajpbr.org/index.php/ajpbr/article/view/149

7. Khudoykulova Farida Vafokulovna. (2022). NONALCOHOLIC FATTY LIVER DISEASE, MODERN CONSIDERATIONS. Conference Zone, 592–599. Retrieved from http://www.conferencezone.org/index.php/cz/article/view/896

8. Khudoykulova Farida Vafokulovna. (2022). NO ALCOHOL OF THE LIVER DIAGNOSTIC AND TREATMENT OF OBESITY DISEASE MODERN OBJECTIVES. Conference Zone, 600–605. Retrieved from http://www.conferencezone.org/index.php/cz/article/view/897

9. Abdusalomova Maftuna Akbarovna, Mavlyanova Zilola Farkhadovna, Makhmudov Sardor Mamasharifovich Optimization of medical and social rehabilitation in Duchenne // Achievements of science and education. 2019. №11 (52). URL: https://cyberleninka.ru/article/n/optimizatsiya-mediko-sotsialnoy-reabilitatsii-pri-bolezni-dyushenna

10. Zilola Mavlyanova, Gulnoza Burkhanova, Maftuna Ravshanova, Sardor Makhmudov, Sanzhar Kholboyev-Improving the tactics of treating children with severe cerebral palsy. https://www.ejmcm.com/article_2366_b8ee379773f1c297c6f9892b076d2d7b.pdf

11. Burxanova Gulnoza Lutfulloevna. (2022). Optimization of rehabilitation for lesions of the locomotor apparatus of athletes participated in chess. *conference zone*, 404–409. retrieved from https://conferencezone.org/index.php/cz/article/view/876
12. Ibragimova Malika Shavkatovna. (2022). characteristics of rehabilitation of children with cerebral palsy and speech defects. *conference zone*, 410–414. retrieved from https://conferencezone.org/index.php/cz/article/view/877
13. Ibragimova Malika Shavkatovna. (2022). effectiveness of hydrokinesiotherapy in the rehabilitation of children with spastic cerebral palsy. conference zone, 507–511. retrieved from http://conferencezone.org/index.php/cz/article/view/887
14. Abdusalomova M.A., Mavlyanova Z.F., Khamrakulova F.M., Makhmudov S.M., Ravshanova M.Z. (2021). Children with Birth Trauma of the Cervical Spinal Cord and Spine (Obstetric Plexitis) According to the Age Periods. Annals of the Romanian Society for Cell Biology, 7077–7085. Retrieved from https://www.annalsofrscb.ro/index.php/journal/article/view/877
15. Leila Khakimova, Dilshoda Abdukhamidova, Makhbuba Akhmedova, & Munisa Ablakulova. (2022). Acne in Allergic Skin Diseases. Texas Journal of Medical Science, 8, 129–131. Retrieved from https://zienjournals.com/index.php/tjms/article/view/1818
16. A.M Khamrakulovna, K.L Rafikovna, A.D Khalimovna-the need for a prescription by family doctors. novateur publications international journal of innovations in engineering research and technology [ijiert] issn: 2394-3696 website: ijiert.org volume 8, issue 9, sep. -2021. https://media.neliti.com/media/publications/429420-the-need-for-a-prescription-by-family-do-c1a1195a.pdf
17. Abdukhamidova, D., & Ablakulova, M. (2011). The role of the general practitioner in the prevention of obesity. Journal of Physician's Bulletin, 1(2), 27–30. retrieved from https://inlibrary.uz/index.php/doctors_herald/article/view/11653
18. Khakimova L.R., Lapasov S.Kh., Ablakulova M.Kh., Abdukhamidova D.Kh. assessment of the effectiveness of teaching the basics of evidence-based medicine in the postgraduate education of general practitioners // Medicine and Ecology. 2017. No. 4 (85). URL:https://cyberleninka.ru/article/n/otsenka-effektivnosti-obucheniya-osnovam-dokazatelnoy-meditsiny-v-poslediplomnom-obrazovanii-vrachey-obschey-praktiki
19. Khusinova, Sh., & Ablakulova, M. (2017). Prediabetes. Journal of Problems of Biology and Medicine, (1 (93), 215–217. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/2968
20. Narmukhamedova N. A., Ablakulova M. Kh. Results of the implementation of the system of general medical practice in urban family clinics: a comparative analysis // Public health and health care.2012. №4. URL:

https://cyberleninka.ru/article/n/itogi-vnedreniya-sistemy-obschey-vrachebnoy-praktiki-v-gorodskie-semeynye-polikliniki-sravnitelnyy-analiz

21. Lapasov, S., Khakimova, L., Ablakulova, M., Abdukhamidova, D., & Lapasova, M. (2015). Modern approaches to the diagnosis and treatment of helminthiases in children in primary health care. Journal of Problems of Biology and Medicine, (2 (83), 172–177. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/4068

22. Ablakulova Munisa Hamrokulovna, Yuldashova Nadira Egamberdiyevna SOvuqlik zanjiri – vaksinatsiya kuchi // ta'lim fidoyilari. 2022. №1. url: https://cyberleninka.ru/article/n/sovuqlik-zanjiri-vaksinatsiya-kuchi

23. Leyla Khakimova, Shoira Khusinova, Munisa Ablakulova, Dilshod Abdukhamidova Safe motherhood and effective antenatal care // OII.2021. №8/S. URL: https://cyberleninka.ru/article/n/bezopasnoe-materinstvo-i-effektivnyy-antenatalnyy-uhod

24. L.R Khakimova, Sh.A Khusinova, M.H Ablakulova Results of the implementation of a clinical protocol for the integrated management of patients with arterial hypertension and diabetes mellitus in primary health care. 2018.Journal Health, demography, ecology of the Finno-Ugric peoples Issue 4.Pages 66-68. https://www.elibrary.ru/item.asp?id=36773883

25. S Kh Lapasov, L R Khakimova, M Kh Ablakulova, Z Kh Lapasova analysis of the structure and clinical characteristics of chronic liver diseases in children .2016.Journal Russian family doctor Volume 20 Issue 8.Pages 17-18. https://www.elibrary.ru/item.asp?id=26376274

26. Lapasov S.Kh., Khakimova L.R., Ablakulova M.Kh., Valieva M.Kh. Diagnosis, treatment and prevention of chronic hepatitis b from the perspective of evidence-based medicine // Man and his health.2015. №3. URL: https://cyberleninka.ru/article/n/diagnostika-lechenie-i-profilaktika-hronicheskogo-gepatita-b-s-pozitsii-dokazatelnoy-meditsiny

27. Khakimova, L,R,., Lapasov S.Kh., Ablakulova M.X, Gaibullaeva F.I."results of assessment of knowledge and skills of students in postgraduate medical education through the use of multiple choice tests." medical education today (2018): 116. http://elib.kirovgma.ru/sites/default/files/3-2-pb.pdf#page=116

28. Zoxidjonovna R. M. et al. Injuries of the ankle joint in athletes. a new view on the problem of rehabilitation //Art of medicine. international medical scientific journal. –2022. –Т. 2. –No. 1. https://artofmedicineimsj.us/index.php/artofmedicineimsj/article/view/87/88 https://artofmedicineimsj.us/index.php/artofmedicineimsj/article/view/87

29. Usmankhodzhaeva A.A., Isamukhametova Yu.M., Burkhanova G.L. Methods of modernized Korean medicine in the treatment of nonspecific pain in the back

// Problems of Biology and Medicine. - 2020. №6. Том. 124. - С. 123-126. DOI: http://doi.org/10.38096/2181-5674.2020.6.00320

30. Burkhanova, G., Mavlyanova, Z., & Kim, O. (2017). The influence of sports nutrition on the physical development of children and adolescents with increased physical activity. Journal of Problems of Biology and Medicine, (4 (97), 24–26. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/3242

31. Egamova, M., Mavlyanova, Z., & Burkhanova, G. (2018). The use of physiotherapy exercises for children with cerebral palsy at home. Journal of Physician's Gazette, 1(2), 114–117. retrieved from https://inlibrary.uz/index.php/doctors_herald/article/view/2931

32. G.L Burkhanova, Sh.M Safin, K.H Derevyanko modern possibilities of rehabilitation for craniovertebral pathology- journal of biomedicine and practice, 2022 https://tadqiqot.uz/index.php/biomedicine/article/view/6012 https://tadqiqot.uz/index.php/biomedicine/article/view/6012/5683

33. Sharafova Inobat Akhmedzhanovna, Burkhanova Gulnoza Lutfilloevna basic approaches to the complex treatment of facital nerve neuropathy in children // Bulletin of Science and Education. 2020. №25-2 (103). URL: https://cyberleninka.ru/article/n/osnovnye-podhody-k-kompleksnomu-lecheniyu-neyropatii-litsevogo-nerva-u-detey

34. Burkhanova, G., & Kim, O. (2018). Evaluation of physical performance of young athletes with increased physical activity. Physician's Journal, 1(2), 25–28. retrieved from https://inlibrary.uz/index.php/doctors_herald/article/view/2825

35. Baratova Sitora Sakhidinovna, Mavlyanova Zilola Farhadovna, Burkhanova Gulnoza Lutfulaevna Study of the allowable values of body parameters of athletes using bioimpedancemetry // Problems of science and education.2019. №31 (81). URL: https://cyberleninka.ru/article/n/issledovanie-dopustimyh-znacheniy-parametrov-tela-sportsmenov-pri-pomoschi-bioimpedansometrii

36. Lapasov, S. K., Khusinova, S. A., Khakimova, L. R., & Urunova, M. A. (2017). THE RESULTS OF THE ASSESSMENT OF DIAGNOSIS AND DIAGNOSIS OF ILLNESS FOR DIABETES TYPE II IN THE MIND OF THE PRIMARY LANKA HEALTH CARE. Health benefits of clinical and experimental medicine, (2). https://doi.org/10.11603/1811-2471.2017.v0.i2.7728 https://repository.tdmu.edu.ua/handle/123456789/1372637 https://ojs.tdmu.edu.ua/index.php/zdobutky-eks-med/article/view/7728/7330

37. S.M Makmudov, O.A Kim assessment of nutritional status based on bioimpedancemetry in young people - journal biomeditsiny i practice, 2022. https://tadqiqot.uz/index.php/biomedicine/article/view/5518 https://tadqiqot.uz/index.php/biomedicine/article/view/5518/5223

38. Makhmudov Sardor Mamasharifovich the functional state of the cardiorespiratory system of athletes involved in swimming.- “Янги Ўзбекистонда

миллий тараққиёт ва инновациялар” 2022. http://conf.iscience.uz/index.php/yumti/article/view/106 http://conf.iscience.uz/index.php/yumti/article/view/106/99

39. Makhmudov Sardor Mamasharifovich Mavlyanova Zilola Farhadovna Khaidarova Sarvinoz Khaydarzhonovna Vysogortseva Olga Nikolaevna a new approach to the program of rehabilitation treatment of patients with ankylosing spondyloarthritis.2022-04-08. https://www.tadqiqot.uz/index.php/biomedicine/article/view/4373 https://www.tadqiqot.uz/index.php/biomedicine/article/view/4373/4141

40. Kim Olga Anatolevna, Abdusalomova Maftuna Akbarovna, Makhmudov Sardor Mamasharifovich, Zhalolitdinova Shaxnoza Akbarzhon kizi, & Ibragimova Leyla Ilxomovna. (2022). the influence of risk factors on the development of cerebral strokes in children. open access repository, 8(04), 179–182. https://doi.org/10.17605/OSF.IO/GV5BS

41. Камалова Ёкутхон Ахмаджановна, Джуманов Жонибек Абдураупович значение лечебной гимнастики в комплексе методов физической реабилитации больных остеохондрозом поясничного отдела позвоночника // вестник науки и образования. 2020. №23-3 (101). url: https://cyberleninka.ru/article/n/znachenie-lechebnoy-gimnastiki-v-komplekse-metodov-fizicheskoy-reabilitatsii-bolnyh-osteohondrozom-poyasnichnogo-otdela

42. Shamsiev, A., Yusupov, Sh., Daniyarov, E., Khakimova, L., Yusupov, Sh., Asliev, U., & Shamsieva, Sh. (2012). Modern approaches to the diagnosis and treatment of urolithiasis in children. Journal of Problems of Biology and Medicine, (2 (69), 129–132. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/6651

43. Lapasov, S., Khakimova, L., & Abdukhamidova, D. (2014). Improving the quality of medical care for children with helminthiasis and parasitic diseases in primary health care. Journal of Problems of Biology and Medicine, (3 (79), 40. retrieved from https://inlibrary.uz/index.php/problems_biology/article/view/4868

44. Sulaymanova, N. (2021). Formation of an assessment of the language picture of the world. Foreign philology: language, literature, education, (2 (79), 18–24. extracted from https://inlibrary.uz/index.php/foreign_philology/article/view/1689

45. Sanjar Kholboyev, Khidoyat Rahimova, Nilufar Sulaymanova. (2021). The state of the intestinal microflora and assessment of the health state among people with impaired glucose tolerance. annals of the romanian society for cell biology, 163–176. retrieved from https://www.annalsofrscb.ro/index.php/journal/article/view/94

46.