UDC 616 + 808
DOI: 10.56871/RBR.2023.56.12.009

BOTANICAL METAPHOR IN MEDICAL TERMINOLOGY

© Aleksey V. Balakhonov[1], Dmitriy I. Pankov[2], Yuriy I. Stroev[1], Leonid P. Churilov[1]

[1] Saint Petersburg State University, Faculty of Medicine. Universitetskaya nab. 7–9, Saint Petersburg, Russian Federation, 199034

[2] Institute for Linguistic Studies RAS. Tuchkov per. 9, Saint Petersburg, Russian Federation, 199053

Contact information: Leonid P. Churilov — Candidate of Medical Sciences, Associate Professor, Head of the Department of Pathology, Faculty of Medicine. E-mail: elpach@mail.ru ORCID ID: 0000-0001-6359-0026

For citation: Balakhonov AV, Pankov DI, Stroev YuI, Churilov LP. Botanical metaphor in medical terminology. Russian biomedical research (St. Petersburg). 2023; 8(1): 66-72. DOI: https://doi.org/10.56871/RBR.2023.56.12.009

Received: 09.11.2022 **Revised: 15.01.2023** **Accepted: 27.02.2023**

Abstract. The article deals with the impact of botanical terminology on medical lexicon, specifically with the names of plants that are applied to the characteristics of a person and human vital activity in health and disease. Examples of terms are given, that are reflected in the phraseological units of the Russian literary language, used in professional medical communication and in colloquial slang of patients. The phenomenon of metaphorization and metonymic transfer of the meanings of commonly used words is typical for the formation of terms in the sublanguage of medicine. Several dozens of examples of syndromes and symptoms of human diseases, human anatomy structures and phenomena of pathology are given, named after the names of plants.

Key words: interdisciplinary knowledge; medical terminology; figurative expressions; botanical metaphors.

БОТАНИЧЕСКАЯ МЕТАФОРА В МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ

© Алексей Викторович Балахонов[1], Дмитрий Иванович Панков[2],
Юрий Иванович Строев[1], Леонид Павлович Чурилов[1]

[1] Санкт-Петербургский государственный университет, медицинский факультет. 199034, г. Санкт-Петербург, Университетская наб., 7–9

[2] Институт лингвистических исследований РАН. 199053, г. Санкт-Петербург, Тучков пер., 9

Контактная информация: Леонид Павлович Чурилов — к.м.н., доцент, заведующий кафедрой патологии медицинского факультета. E-mail: elpach@mail.ru ORCID ID: 0000-0001-6359-0026

Для цитирования: Балахонов А.В., Панков Д.И., Строев Ю.И., Чурилов Л.П. Ботаническая метафора в медицинской терминологии // Российские биомедицинские исследования. 2023. Т. 8. № 1. С. 66–72. DOI: https://doi.org/10.56871/RBR.2023.56.12.009

Поступила: 09.11.2022 **Одобрена: 15.01.2023** **Принята к печати: 27.02.2023**

Резюме. В статье рассматривается влияние ботаники на медицинский лексикон, включая названия растений, которые применяются к характеристике черт и проявлений жизнедеятельности человека в состоянии здоровья и болезни. Приводятся примеры наименований, которые нашли отражение во фразеологизмах русского литературного языка, в профессиональном подъязыке медицины и жаргоне пациентов. Показано, что явление метафоризации и метонимического переноса значений общеупотребительных слов характерно для формирования терминов подъязыка медицины. Приведены несколько десятков примеров синдромов и симптомов заболеваний человека, объектов его анатомии, физиологии и патологии, в наименованиях которых используются названия растений.

Ключевые слова: междисциплинарное знание; медицинская терминология; образные выражения; ботанические метафоры.

Each individual and society as a whole are structurally included in the biosphere, so it has long been clear that human society can be considered as part of an integrated system of the surrounding world. Speaking about our place in nature, let us pay attention to the fact that human as a biological organism, in evolutionary essence of matter, is only one of 6–7 million species of living beings known to modern taxonomy. That is why our uniqueness as the subspecies of *Homo sapiens* does not differ so much in biological sense in general and evolutionary sense in particular from uniqueness of some worm, elephant or fish. In confirmation of this, let us recall at least the title of the book by the famous paleoanthropologist R. Foley about human origins — "Another Unique Species" [14].

Humans are characterised by the highest development of second signal system associated with speech. And it is not surprising that our connections with the entire living world manifest themselves not only at organismic, population, species, and biosphere levels. Even philology has not remained aloof from manifestation of this unity! We often use both in everyday life and in scientific texts (primarily in medicine) words or whole phrases that metaphorically denote some features of structure, existence, qualities, and characteristics of living organisms in relation to humans, their vital activity both in health and disease.

In our previous article in the journal "Russkaya rech'" [4], we looked at how words denoting some features of structure, habits, and qualities of **animals** in relation to healthy and sick person are used in everyday life and medicine. Several dozen examples showed that phenomenon of metaphorisation and metonymic transfer of meanings of commonly used words of "zoological" origin is typical for formation of terms in language of medicine.

But medicine is historically closely connected with **botany**, since plant materials have always been one of the main sources of medicines, so plants, as it were, did not remain on the sidelines of formation of medical lexicon. In ancient times, a physician had to be a pharmacist at the same time, gathering and processing medicinal plants. Classical university education required of a medical student to have good knowledge of the plant science. Many famous doctors were also talented botanists. You don't have to look far for examples. The German-Dutch doctor T.W. Engelmann (1843–1909) not only invented the famous Engelmann lever, still used to record kymograms in medical and physiological experiments, he discovered heart automaticity and was the first to link muscle contraction with interaction of their isotropic and anisotropic bands. He was also a keen botanist and, in an experiment on algae, he demonstrated conversion of light energy into chemical energy in chloroplasts and studied effect of light with different wavelengths on photosynthesis.

The English physician, entomologist, philanthropist and Quaker J. Fothergill (1712–1780) has remained in history of medicine as an author of a hypothesis, confirmed much later, about the origin of angina as a result of sclerosis of the coronary arteries. However, he was also the greatest botanical collector and gardener; the genus of shrubs *Fothergilla* from the family *Hamamelidaceae* is named after him, including up to four species, in particular Fothergilla major, often grown by gardeners for their beautiful creamy-white bottle-brush shaped inflorescences and hairy dark green leaves, turning orange-red in late autumn.

The British A.H. Hassall (1817–1894), was a doctor at the Royal Free Hospital in London, pathologist, histologist, and hygienist. He discovered an important structure of human thymus, Hassall's corpuscles, and described hyaline deposits in cornea of the eye. At the same time, his passion for botany, which he enthusiastically studied, did not interfere with, but rather helped his medical work. Thus, he developed a method for detecting the substitution of coffee with chicory and achieved the adoption of the first law against adulteration of food products, and also studied algae of London water, thereby contributing to the reform of the city's water supply [15].

In Russia, situation was the same. Russian physicians working in the Russian Orthodox Mission in Beijing made a decisive contribution to description of many Far East flora and are considered in the world botany as classics of this science. For example, P.E. Kirilov (1801–1864), a native of St. Petersburg, together with a graduate of the Imperial University of Dorpat, botanist and doctor of medicine A.A. Bunge (1803–1890), gathered a large collection of medicinal herbs in China, and P.E. Kirilov sent to St. Petersburg the first ginseng specimen in European herbariums, given to him by a patient, sister of the Dowager Empress. This specimen remained the only one in European herbariums until the beginning of the XX century. Upon his return, A.A. Bunge published two monographs on Chinese plants in 1831 and 1835, and later, as a botanist, he became an academician of the Imperial Academy of Sciences in St. Petersburg. Dozens of species and a whole genus of plants are named in honor of this outstanding botanist and physician. Doctor P.E. Kirilov, who became a private practitioner after his retirement, actually gained fame as the first tea grower in Russia, since before his pioneering experiments, tea plantations did not exist in Russia. Several genera and species of plants, first described from his herbariums, are named in honor of this Russian physician and botanist (*Kirilowia Bunge, Trichosanthes kirilowii Maxim., Spirorhynchus Karel et Kiril,* etc.). Moreover, it was under his leadership that the first clinical trials of Chinese herbal medicines in Europe were conducted at the Imperial Medical and Surgical Academy (IMSA) in 1848.

A native of Penza, graduate of the IMSA, doctor A.A. Tatarinov (1817–1886) gave his *alma mater* his largest herbarium of Chinese medicinal plants in Europe. The pearl of his legacy was the first atlas of Chinese medicinal plants in Russia with 452 drawings by author and Chinese artists. One of the species of China's calamus was named in honor of this outstanding physician and botanist. Finally, a native of the Estland province,

a graduate of the Imperial University of Dorpat, E.V. (German: A.-G. E.) Bretschneider (1833–1901) not only served as a physician to the Russian embassy in China, but also gained truly worldwide fame as a botanist. His major work on the history of botanical discoveries of Europeans in China was the first in the world. He himself described a tropical tree, named *Bretschneidera sinensis* in his honor. Based on the results of his research, this Russian doctor and naturalist published in London in 1882–1895 an authoritative three-volume reference book on Chinese medicinal plants, "*Botanicon sinicum*", which is still widely cited today [10].

However, it is impossible to establish the authorship of the emergence of "botanical" metaphors and figurative comparisons, with rare exceptions. Linguistic researchers often associate the appearance of metaphorical imagery with ancient myths. Thus, A.N. Veselovsky [6] points out that "man perceived the outside world in an image based on parallelism of man and nature".

It would seem that in terms of the number of commonly used expressions, phraseological units and medical terms, animals should be much more advantageous than plants (after all, the former are evolutionarily closer to man). Moreover, in ancient myths, with rare exceptions (the world tree, the Hesperides Aegle and Erytheus, who became, respectively, a willow and an elm, etc.), we will not find an abundance of fabulous plants, but there are plenty of representatives of the fauna: mermaids, centaurs, chimeras, a Trojan horse, etc., etc. The Labors of Hercules alone are worth something: here is the Nemean lion, the Lernaean Hydra, the Ceryneian hind and the Erymanthian boar, the Stymphalian birds, the Augean stables, the Cretan bull, the horses of Diomedes, the cattle of Geryon, and even the dog Cerberus! There is entirely the fauna. And from flora — there are only the cypress club of the hero, and apples of the Hesperides [8].

And although European medicine has ancient roots, nevertheless, plants, if they "lag" behind animals in the medical lexicon, then only very slightly, which is what we wanted to demonstrate.

Of course, not all such expressions remain within strict framework of academic literary or scientific language. However, many writers and poets used such figurative expressions, metaphors, phraseological units, meaning the similarity of plant features not only with manifestations of diseases, but also with characteristics of a person, his psychological and somatic status, differences from generally accepted behavior patterns, manifestations of life activity, etc. Many "plant" metaphors have already entered not only the professional, but also everyday Russian language and are recorded in explanatory dictionaries. The meaning of these expressions is familiar to almost everyone. We will give just a small selection of literary examples.

To feed with birch porridge is to punish corporally for a misdemeanor. *"Have you forgotten that birch porridge with which you were fed in childhood for your stupidity and impudence?"* A. Kuprin.

To chop into cabbage is to destroy an enemy with saber stabs. *"Oh, Ostap, Ostap!.. — Taras shouted forcing his way towards him, chopping into cabbage everyone he met".* N.V. Gogol.

Onion grief is ironic expression for a sluggish, unlucky, inept person. *"Do you even know how to shoot, onion grief? ... With your manners, you won't hit the haystack in two steps".* K. Sedykh.

Business is tobacco is about a desperate, hopeless situation or a hopeless position. *"Well, you have a tobacco business, Akinfiy Nazarych".* D.N. Mamin-Sibiryak.

To wither is to lose vivacity, cheerfulness. *"You are funny: just touch you and you wither. You are such a bashful mimosa".* A. Kuprin.

Linden is about something fake, forged, false. *"What if he is right, and all the accusations are pure linden?"* N. Leonov.

Burdock is about a simple, unsophisticated, slow-witted person. *"You may look like a burdock, but you expound a thought no worse than my six-year-old nephew".* V.V. Golovachev.

To overgrow with moss is to become wild, to sink. *"You need to give up your wildness, otherwise we will all overgrow with moss here".* D.N. Mamin-Sibiryak.

To get the pinecones is to acquire skills by making mistakes, allowing blunders. *"And some people have to achieve this themselves, constantly getting the cones".* N. Nepryakhin.

Tough nut to crack is a person with a firm or secretive character who is not easily influenced by others. *"The old man turned out to be a tough nut to crack at first".* V. Kozhevnikov.

Cling like a burdock (like a bath leaf) — about someone who behaves in an intrusive, annoying manner. *"He clung like a burdock".* A.F. Kamenetsky.

Fresh as a cucumber is about a cheerful person with a fresh, healthy appearance. *"Eduard Ivanovich is fresh as a cucumber; he sits buttoned up".* A. Gladilin.

Old horseradish is dismissive description of an old person. *"I'm telling you with full responsibility: the old horseradish has gone crazy".* N.N. Shpanov.

Dumb as wood (stump, cork, firewood, etc.) is about someone stupid, who knows nothing. *"And if he is dumb as wood...".* V.S. Vysotsky.

Flower garden is collection of beautiful faces, people. *"A flower garden of cute children's faces is spinning in front of her".* N.A. Nekrasov.

Pinecone on level place is insignificant, mediocre, narrow-minded person who imagines himself important or finds himself in a significant position. "*Your dad is probably a pinecone on the level place? Yes?"* E. Vilmont.

Plants are widely "used" not only in everyday speech, but also in scientific. The phenomenon of metaphorisation and metonymic transfer of meanings of commonly used words is typical for formation of terms in language of science [4]. They are also used in medicine. As A.A. Sharapa writes, resulting terms do not contain the assessment of a person (his personal

qualities), object of metaphorical comprehension in such cases is affected functional system of the body (or organ) [17]. This is the difference between medical "zoological" and "botanical" metaphors and general language metaphors.

The names of diseases, syndromes, symptoms, terms from field of normal anatomy and physiology, various medical devices, etc., given in this article, we took from our own clinical and teaching experience, tips from colleagues and a number of monographs and dictionaries of medical terms, as well as articles by linguists and physicians [1–5, 7, 9, 11–13, 15, 16].

Below are "botanical-medical" terms we have collected. Note algae, horsetails and club mosses are not represented in this list at all, and ferns are mentioned only once. Almost all of these terms are "borrowed" from gymnosperms and angiosperms. Note also that mushrooms mentioned three times do not belong to plants (since this is a separate kingdom of living organisms). But traditionally, in most higher education institutions, mushrooms are studied in botany departments, so we have allowed ourselves some liberty. Another liberty we have taken is that we have included in the list terms that are derivatives of food products made from plants (wine, beer, semolina porridge, etc.).

Adam's apple is protruding part of the larynx in the middle of the neck in men, formed by two plates of thyroid cartilage converging at right angle. Is characteristic of mature males (Adam is the biblical first man who tasted the forbidden fruit — an apple).

Apoptosis (Greek apoptōsis — falling leaves) is genetically programmed cell death.

Watermelon symptom is characteristic percussion sound during percussion of the skull with signs of severe osteoporosis or bone defects (with hyperparathyroidism and myeloma).

Bamboo stick symptom is common in Bechterew's disease, ankylosing spondylitis: absence of gaps between vertebrae due to intervertebral disc calcification.

Banana fracture is common in Paget's disease of bone: fractures of long tubular bones in which bone fragments have strictly parallel surfaces (like on fault line of a peeled banana).

Bean shaped (kidney shaped) tray (basin) for instruments intended for various medical and preventive procedures; its shape resembles a bean.

Branch is a part branching off from the main direction. Usually, this term is applied to nerve branches or blood vessels, for example, a bypass branch of coronary artery.

Wine ("Tübingen") heart is cardiovascular disease first described in the city of Tübingen in diligent wine drinkers with poor nutrition and hard work.

Cherry pit symptom is staining of macular region of the retina in a brown-brick-red color; observed in a number of eye and systemic diseases.

Pea soup symptom is form of stool in typhoid fever.

Mushroom-shaped "mycosis" (mycosis fungoides) is the most common primary cutaneous lymphoma (a type of leukemia). It manifests itself as red spots, thickening and peeling of the skin, externally resembling a skin fungus. Term has become established, although this disease is not actually mycosis.

Mushroom-shaped tongue is tongue in form of a dry mushroom in severe dehydration.

Pear-shaped abdomen is belly in shape of a hanging pear in its rectus muscle weakness.

Gutta-percha man is a person suffering from systemic connective tissue dysplasia with increased joint mobility (gutta-percha is a stretchy resin from the milky juice of plants of the genus *Palaquium* — in Indochina, or euonymus warty *Euonymus verrucosus* — in Russia).

Plank-shaped abdomen is pronounced tension and hardening of abdominal muscles in perforation peritonitis, acute pancreatitis, acute intestinal obstruction, etc.

Tree of life (phylogenetic, genealogical tree) is schematic representation of system of path of evolutionary development, the relationship of a particular group of organisms (or the entire living world) in form of a tree with branches.

Tree of life of the cerebellum (Latin: *arbor vitae cerebelli*) is characteristic pattern of cerebellum on a section.

Tree of Porphyry is dichotomous division of blood vessels (Porphyry Malchus (232/233, Tyre 1 304/306, Rome) — a Phoenician Neoplatonic philosopher).

Oak substance (tannins). In ancient times, only vegetable tanning agents were known, the main one of which was tannin. It was obtained from gall nuts (oak galls) formed on oak leaves during its infectious or parasitic diseases, and from oak bark.

Hollow. In dentistry is a defect in hard tissues of a tooth due to caries.

Smell of jasmine is smell of a cadaver lung (during an autopsy) in pneumonia caused by a blue-green pus bacteria — *Pseudomonas aeruginosa*.

Strawberry gallbladder is appearance of organ in diffuse form of cholesterolosis of gallbladder: brick-red mucous membrane is dotted with punctate yellow inclusions of lipids.

Germ leaves (Latin: *folia embryonalia*) are layers of a body of the embryo of multicellular animals, formed during gastrulation: ecto-, ento- and mesoderm.

Inulin (Inula — elecampane, *Asteraceae* family) is a reserve water-soluble polysaccharide of plants; it is widely used to study water and salt metabolism and kidney functions in animals and humans.

Bark (cortex) is an outer part of an organ, separated from or different in structure from its inner part, for example, cerebral, adrenal, cerebellar, renal cortex.

Root is initial part of and organ or structure, for example, root of the tongue, tooth, portal vein, lung.

Cortico... (Latin *cortex*, genitive *corticis* — bark) is a part of compound word meaning: related to cortex, cortical substance,

as well as to peripheral layer of something, for example, cortical granules in an egg cell, corticosteroid hormones.

Coffee with milk is characteristic skin color in infective endocarditis, and also the appearance of skin spots in a number of forms of primary insulin resistance, for example, with autoantibodies to insulin receptors, in neurofibromatosis (von Recklinghausen's disease).

Bulb is enlarged part of an organ, for example, aortic bulb is an enlarged part of the aorta in many vertebrates; also, duodenal bulb, hair bulb (follicle) at hair root.

Raspberry jelly is characteristic appearance of sputum in bronchial carcinoma; and also, typical appearance of stool (diarrhoea with blood and mucus) in amoebic dysentery.

Raspberry tongue is tongue characteristic of scarlet fever — the papillae are emphasised due to cleansing of the tongue from necrotic epithelium; also, the symptom is characteristic of Hunter's glossitis, Gunther-Möller glossitis with a bright red glossy tongue without a coating due to vitamin B_{12} and/or folate deficiency.

Semolina is appearance of liver in syphilitic granulomatous hepatitis with numerous small whitish gummas.

Dead tree symptom is a radiological sign of chronic bronchitis, a pattern of contrasted bronchi resembling a leafless tree.

Amygdala (*corpus amygdaloideum*) is an almond-shaped area of the brain located in white matter of temporal lobes of the brain.

Almonds are tonsils, glands (colloquial): clusters of lymphoid tissue located in the nasopharynx and oral cavity.

Nutmeg liver is appearance of liver with its chronic venous congestion.

Burnt tree symptom is X-ray contrast image of kidney in chronic pyelonephritis, resembling a tree trunk with protruding, as if burnt, branches.

Olives are subcortical nuclei of equilibrium in shape of olives (olive tree fruits), located in the medulla oblongata; also, a medical instrument for washing nose and blowing out auditory tubes and a metallic olive-shaped tip of the Levin duodenal probe.

Palmar (Latin: *palma* — palm) is flexor surface of the hand resembling a palm leaf in shape.

Fern symptom appears, when applying cervical mucus taken in the middle of menstrual cycle, in ovulation phase, to a glass slide, after drying under microscope, a clear pattern resembling a fern leaf can be detected.

Bunch of parsnip roots are bizarre shape of hand in gout.

Greenstick fracture Is a type of fracture in childhood, in which the bone breaks, but the periosteum surrounding it is not damaged.

Beer heart is a cobalt cardiomyopathy (secondary cardiomyopathy) that developed as a result of chronic consumption of beer containing cobalt salts (foaming agents), which were added to this drink to obtain a beautiful artificial foam until the second half of the XX century.

Beer belly is common name for male abdominal obesity associated with excessive beer consumption.

Pyrethrum (Persian powder; *Pyréthrum* is the genus of perennial herbaceous plants, Asteraceae family) is a powder from crushed chrysanthemum flowers (pyrethrum); natural insecticide for protection against insects (in particular, bugs).

Cork (phellem, protective tissue of the axial plant organs) is an obstruction of any hollow organ, for example, a sulfur plug is the accumulation of earwax that blocks external auditory canal.

Millet rash is rash on mucous membranes in viral infections, resembling millet grains.

Radish symptom is X-ray picture in esophageal achalasia.

Radish-shaped finger is shape of distal phalanges of fingers in psoriatic arthritis.

Rice-water symptom is characteristic appearance of stool (cloudy white liquid with floating flakes) in cholera.

Rice bodies (grains) are small foci in placenta in case of infection with chickenpox virus, also calcium deposits on sclera and on skin in hyperparathyroidism; synonym: Horner-Trantas dots, J.-F. Horner (1831–1886) — Swiss ophthalmologist; A. Trantas (1866–1960) — Greek ophthalmologist.

Roseola is an element of skin rash (New Latin *roseola* — rose): pinkish-red round spot that appears as a result of dilation of blood vessels.

Sago spleen (sago (ham) spleen, red wine soup with sago, lard spleen) is appearance of organ in splenic amyloidosis. The terms were introduced by Carl von Rokitansky (1804–1878) — Czech-Austrian pathologist).

Hay fever is pollinosis, seasonal allergic rhinoconjunctivitis caused by anaphylactic reaction to plant pollen.

Hay runny nose — find Hay fever.

Nutshell or putamen (Latin: *putamen*, from *putare* — to think or consider) is the basal nucleus of striopallidal system at the base of the forebrain (telencephalon); the main functions are the regulation of movement and influence on various types of learning.

Plum belly is flabby, wrinkled abdomen in newborns with aplasia of muscles of anterior abdominal wall.

Stem cells are undifferentiated or partially differentiated cells that can change into various cell types and self-renew, producing both new stem and differentiating cells. They are the earliest type of cell in cell lineage. The term was introduced in 1909 by the Russian histologist A. A. Maximov (1874–1928).

Pituitary stalk is infundibulum or infundibular stalk; an anatomical structure consisting of the system of portal vessels and axons of hypothalamic nuclei ending in posterior pituitary gland.

Folic (pteroylmonoglutamic) acid (obsolete: vitamin B_9, vitamin M; Latin all Latin terms throurh the whole text should be in Italic scrip from folium — leaf) is a water-soluble vitamin necessary for DNA synthesis; it was first isolated in 1941 from spinach leaves.

Drunk bread is bread made from grain infected with the fungus Fusarium graminearum; causes poisoning similar to alcohol.

Beer-colored urine is bilirubinuria in obstructive jaundice, in acute phase of Botkin's disease (S.P. Botkin, 1832–1889, Russian physician and pathophysiologist) in hemolytic jaundice.

"Bird cherry" is 1-chloroacetophenone, military poison with irritant and lachrymatory effect.

Lentil is lens of the eye; optical lenses get their name from the Latin name for lentil (lens), which shape they resemble.

Lenticular nucleus (*nucleus lentiformis*) is one of subcortical nuclei in the layer of white matter of cerebral hemispheres; ensures coordinated work of various centers of movement regulation.

Pinecone is rounded bulge, lump on the body that appears as a result of bruise or some pathological process (for example, *tophi uruci* — gouty tophi, granulomas in gout).

Pineal gland (Latin: *glandula pinealis*) is pineal body, upper cerebral appendage. One of endocrine glands; outwardly resembles the cone of the Italian stone pine — *Pinus pinea*; The term was introduced by the Greco-Roman physician Galen (129 — c. 216 CE).

Pineal cell is a light-sensitive cell in the retina of vertebrates, including humans; it is named for its characteristic shape.

Chocolate cyst is ovarian cyst in endometriosis lesion, filled with old blood.

Chocolate liver is appearance of liver with dark spots in its tissue caused by inclusions of products of impaired metabolism of aromatic amino acids in Dubin–Johnson syndrome (I.N. Dubin, 1913–1980; F.B. Johnson, 1919–2005, American pathologists).

Apple of the eye (eyeball) is an eye itself, paired anatomical structure of irregular spherical shape. The term is similar to the Latin *bulbus oculi* — bulb of the eye (but by no means an apple!). In the Russian lexicon, name "apple of the eye" has become established. Perhaps Russian doctors did not want to translate "bulb" literally as "onion", since they all knew the Russian idiom "onion tears, onion grief", which is why in ophthalmology such a name as "the bulb of the eye" sounded strange to Russian ear.

Apple jelly is appearance of inflammatory infiltrate on diascopy in case of lupus skin lesion, color of applesauce or burnt sugar.

Apple obesity is an android (Cushingoid) type of obesity with predominant fat deposition on trunk; typical of metabolic syndrome.

Apple abdomen is a belly shape typical of metabolic syndrome.

Fried eggs with onions are appearance of stool in coli enteritis (obsolete: toxic dyspepsia) in children.

Barley (*hordeolum*) is acute purulent inflammation of eyelash hair follicle or sebaceous gland of Zeis (E. Zeis, 1807–1868, German ophthalmologist).

As we noted earlier [4], in Russian medical sublanguage, symptoms similar to those given above are stylistically neutral, commonly used (often they function on equal terms with other names without "botanical" components, usually Latin), as a rule, unambiguous and understandable to all doctors. Classifying them, for example, as medical jargon would be unlawful.

Unfortunately, profiling of medical education that has prevailed all over the world (including in our country), its transformation from classical university to narrowly professional, has caused serious damage to general biological and, in particular, botanical training of doctors. For this reason, their new generations are no longer "distracted" by botany, and accordingly, enrichment of medical thesaurus with plant terms has slowed down, if not stopped at all.

But is this good? In our opinion, ceasing to be a naturalist, physician loses in the quality and breadth of scientific, ecological and professional thinking. After all, speech is its most important prerequisite.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

Funding source. This study was not supported by any external sources of funding.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

REFERENCES

1. Anglo-russkij medicinskij jenciklopedicheskij slovar' [English-Russian Medical Encyclopedic Dictionary]. Per. s angl. 26-go izd. Medicinskogo slovarja Stedmana. Eds: Chuchalin F.G. et al. Moscow: GEOTAR Publ.; 1995. (in Russian).

2. Balakhonov A.V. Oshibki razvitya [Errors of Development]. 2nd edition, amended. Saint-Petersburg: ELBI-SPb Publ.; 2001. (in Russian).
3. Balakhonov A.V. Ed. Bol'shoj tolkovyj slovar' biologicheskih terminov (s vkljucheniem osnovnyh medicinskih terminov) [Gross Explanatory Dictionary of Biological Terms (Including Basic Medical Terms)]. Saint-Petersburg: Kontrast Ltd Publ.; 2017. (in Russian).
4. Balakhonov A.V., Pankov D.I., Stroev Y.I., Churilov L.P. Zhivotnye v medicinskoj terminologii i harakternyh chertah cheloveka [Animals in medical terminology and human characteristics]. Russkaya rech'. 2022; 5: 7–20. (in Russian).
5. Borodulin V.I. Ed. Medicinskij enciklopedicheskij slovar' [Medical Encyclopedic Dictionary]. Moscow: Oniks 21 vek Publ.; 2002. (in Russian)
6. Veselovskij A.N. Istoricheskaja pojetika [Historical Poetics]. Leningrad: Goslitizdat Publ.; 1940. (in Russian).
7. Grinev-Grinevich S.V. Terminovedenie [Terminology Studies]. Moscow: Akademija Publ.; 2008. (in Russian).
8. Kuhn N.A. Mify Drevnej Grecii [The Myths of Ancient Greece]. Moscow: Jeksmodetstvo Publ.; 2021. (in Russian).
9. Lazjuk G.I. Ed. Teratologija cheloveka [Human Teratology]. Moscow: Meditsina Publ.; 1991. (in Russian).
10. Li Min, Tkachenko K.G., Cicilin A.N. et al. Izuchenie i primenenie tradicionnyh kitajskih lekarstvennyh sredstv v Rossii: istorija i sovremennost' [The study and use of traditional Chinese medicines in Russia: History and modernity]. In: Identifikacija lekarstvennogo syr'ja kitajskoj mediciny. Atlas-opredelitel'. Eds.: Zhao Zhongzhen, Chen Hubiao. Saint Petersburg: Saint-Petersburg University Publ.; 2021: VII–XXXVI. (in Russian).
11. Nugumanova A.A.K voprosu o proishozhdenii metafor [To the question of the origin of metaphors]. Vestnik Bashkirskogo universiteta; 2008: 13(2): 286–9. (in Russian).
12. Stroev Y.I., Churilov L.P. eds. Sistemnaja patologija soedinitel'noj tkani. Rukovodstvo dlja vrachej [Systemic pathology of connective tissue. Guide for physicians]. Saint-Petersburg: ElBi-SPb Publ.; 2014. (in Russian).
13. Fedotov V.D. Ed. Bol'shoj slovar' medicinskih terminov [Gross Dictionary of Medical Terms]. Moscow: Centrpoligraf Publ.; 2007. (in Russian).
14. Foley R. Eshhe odin nepovtorimyj vid [Another unique species]. Translated from English. Moscow: Mir Publ.; 1990. (in Russian).
15. Churilov L.P., Kolobov A.V., Stroev Y.I. Eds., i dr. Tolkovyj slovar' izbrannyh medicinskih terminov (eponimy i obraznye vyrazhenija) [Explanatory Dictionary of Selected Medical Terms (Eponyms and Figurative Expressions)]. Saint-Petersburg: ELBI-SPb Publ.; 2010. (in Russian).
16. Churilov L.P. General Pathophysiology with Fundamentals of Immunopathology. 5th Edition. Saint-Petersburg: Medizdat-SPb Publ.; 2020. (in Russian).
17. Sharapa A.A. Metaforizacija kak raznovidnost' semanticheskogo obrazovanija medicinskih terminov [Metaphorization as a kind of semantic education of medical terms]. Abstracts of the International Scientific and Practical Conference «Technologies for teaching Russian as a foreign language and diagnostics of speech development». Minsk: BSMU Publ.; 2007: 39–42. (in Russian).

ЛИТЕРАТУРА

1. Англо-русский медицинский энциклопедический словарь. Пер. с англ. 26-го изд. Медицинского словаря Стедмана. Под ред. Чучалина А.Г. М.: ГЭОТАР; 1995.
2. Балахонов А.В. Ошибки развития. Изд. 2-е, перераб. и дополн. СПб.: ЭЛБИ-СПб; 2001.
3. Балахонов А.В. ред.-сост. Большой толковый словарь биологических терминов (с включением основных медицинских терминов). СПб.: Контраст; 2017.
4. Балахонов А.В., Панков Д.И., Строев Ю.И., Чурилов Л.П. Зоологическая метафора в медицинской терминологии. Русская речь. 2022; 5: 7–20.
5. Бородулин В.И. ред. Медицинский энциклопедический словарь. М.: Оникс 21 век; 2002.
6. Веселовский А.Н. Историческая поэтика. Л.: Гослитиздат; 1940.
7. Гринев-Гриневич С.В. Терминоведение. М.: Академия; 2008.
8. Кун Н.А. Мифы Древней Греции. М.: Эксмодетство; 2021.
9. Лазюк Г.И. ред. Тератология человека. М.: Медицина; 1991.
10. Ли Минь, Ткаченко К.Г., Цицилин А.Н. и др. Изучение и применение традиционных китайских лекарственных средств в России: история и современность. В кн.: Идентификация лекарственного сырья китайской медицины. Атлас-определитель. Ред.: Чжао Чжунчжэнь, Чэнь Хубяо. СПб.: Издательство СПбГУ; 2021: VII–XXXVI.
11. Нугуманова А.А. К вопросу о происхождении метафор. Вестник Башкирск. ун-та. 2008; 13(2): 286–9.
12. Строев Ю.И., Чурилов Л.П. (под ред.). Системная патология соединительной ткани. Руководство для врачей. СПб.: ЭЛБИ-СПб; 2014.
13. Федотов В.Д. сост. Большой словарь медицинских терминов. М.: Центрполиграф; 2007.
14. Фоули Р. Еще один неповторимый вид. Пер. с англ. М.: Мир; 1990.
15. Чурилов Л.П., Колобов А.В., Строев Ю.И. ред.-сост., и др. Толковый словарь избранных медицинских терминов (эпонимы и образные выражения). СПб.: ЭЛБИ-СПб; 2010.
16. Чурилов Л.П. Общая патофизиология с основами иммунопатологии. Изд. 5-е. СПб.: Медиздат-СПб; 2020.
17. Шарапа А.А. Метафоризация как разновидность семантического образования медицинских терминов. Тезисы доклада на Международной научно-практической конференции «Технологии обучения русскому языку как иностранному и диагностика речевого развития». Минск: БГМУ; 2007: 39–42.