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SYNONYMY IN ANATOMICAL TERMINOLOGY

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СИНОНІМІЯ В АНАТОМІЧНІЙ ТЕРМІНОЛОГІЇ

Abstract. The article addresses the issue of studying noun and adjective synonymy in the Latin anatomical terminology. Different views on the problem of noun and adjective synonymic relations in the anatomical terminology are considered. The complex of Latin nouns-synonyms, their signs and functional specifics are described. Latin terminological units are divided into three groups: 1) absolute synonyms; 2) synonyms of varying compatibility; 3) quasi-synonyms. Group 1 includes absolute synonyms which have appeared due to the revision of anatomical nomenclature and are of the similar semantic meaning. Group 2 – nouns, often terminological pairs, having different compatibility in the anatomical terminology. The most numerous Group 3 includes the so-called quasi-synonyms – terms of similar meaning intended for differentiation of various anatomical notions. Meanwhile, it has been found that the signs of Latin quasi-synonyms differentiation in the anatomical terminology may vary greatly and contain an indication on the shape of an object, type of tissue, morphological similarity, object location, etc. Most often used synonymic adjectives are analysed. They have been found to belong to Group 2 of the classification above, since the choice of the term-adjective most commonly depends on the compatibility, that is on the noun it is related to.

Key words: noun and adjective synonymy; anatomical terminology; absolute synonyms; synonyms of varying compatibility; quasi-synonyms.

Анотація. Стаття присвячена питанню вивчення синонімії іменників і прикметників в анатомічній термінології латинської мови. У роботі розглянуто погляди дослідників на проблему синонімічних відношень іменників та прикметників в анатомічній термінології. Описано сукупність іменників-синонімів латинської мови, їх ознаки й особливості функціонування. У дослідженні латинські термінологічні одиниці поділено на три групи: 1) абсолютні синоніми; 2) синоніми, що мають різну сполучуваність; 3) квазісиноніми. До першої групи увійшли абсолютні синоніми, які з'явилися внаслідок перегляду анатомічної номенклатури і мають однакове смислове значення. Другу групу складають іменники, часто це термінологічні пари, які в анатомічній термінології мають різну сполучуваність. Третя найчисленніша група включає в себе так звані квазісиноніми, тобто терміни з подібним значенням, призначені для диференціації різних анатомічних понять. При цьому встановлено, що ознаки розрізнення латинських квазісинонімів в анатомічній термінології можуть бути дуже різні і можуть містити вказівку на форму об'єкта, характер тканини, морфологічну схожість, місце розташування об'єкта та ін. Проаналізовано найбільш уживані синоніми-прикметники. Встановлено, що всі вони можуть бути включені до другої групи наведеної вище класифікації, оскільки вибір терміна-прикметника залежить найчастіше від сполучуваності, тобто від іменника, до якого він відноситься.

Ключові слова: синонімія іменників і прикметників; анатомічна термінологія; абсолютні синоніми; синоніми, що мають різну сполучуваність; квазісиноніми.

Introduction. Modern medical terminology is the outcome of long historical development. Originating from ancient Latin, terminological units penetrated

into the languages world-wide and form a basis for the medical terminology of any language. Genre diversity is a peculiar feature of medical discourse, the latter including case report, scientific article on medicine,

article on medical encyclopaedia, indications for the drug application, etc. Term is a central unit of any medical discourse type [10, 11].

Like no other, this type of discourse presumes accuracy of the term use, since misinterpretation of a term may result in unintended consequences for human health. The object of this study are Latin terms, which form the basis for any medical discourse text.

The aim – to describe and classify synonymic nouns and adjectives in Latin anatomical terminology, as well as to consider consistency of term functioning. To achieve the aim, we are going to address the following tasks: to find terms of similar semantic nest and meaning; to determine criteria for semantic differentiation of the terms within these groups; and to form classifications of terms-synonyms. Synonymy is an integral part of any live language, as well as of its any subsystem, terminology included [9, p. 89].

Synonymic relations of Latin noun and adjective terms are studied. The study is relevant due to the need for clear distinction of meanings and use of Latin synonymic lexical units in the medical discourse. Constantly growing number of synonyms in Latin medical terminology due to continuous development of medical term system is another factor suggesting the importance of the issue. Scientific novelty of the study is due to the first attempt of analysing nouns-synonyms and adjectives-synonyms, found in the latest edition of International Anatomical Terminology [4].

Methods. Analysis of literature sources deals with the cases of interlanguage synonymy, including asymmetry at which Latin has two words of the similar meaning with one Ukrainian equivalent only that complicates proper use of Latin medical terms. Theoretical analysis of scientific publications makes it possible to generalize the concept of synonymy in the medical terminology and to distinguish basic approaches to studying the phenomenon.

Results. Any field of terminology is constantly developing, medical terminology not excepted. Continuous replacement of terms is occurring, new terms appear, and available terms acquire new meanings [9, p. 148], all these factors complicating communication of experts in different fields of medicine.

The issues of studying synonyms in today's linguistic literature lack unified generally accepted understanding and definition of the phenomenon, as synonyms are the words with similar and close meaning.

Three basic approaches to studying synonyms are distinguished in modern linguistics: a) denotative

(O. Reformatsky, M. Komlyev); b) significative (R. Budahov, D. Novykov); c) structural (L. Bulakhovskyy, Yu. Apresian) [3].

The source basis for the study are dictionaries [Nechay, Netlyukh] and the newest textbooks, monographs, manuals, reference books, articles, lectures, and theses of practical experts who make use of the national anatomical terminology.

In this study we address the “International Anatomical Terminology” under the editorship of I. I. Bobrov and V. G. Kovieshnikov [4], which is the first official list of the Ukrainian terms (Ukrainian standard) in the International Anatomical Nomenclature. The main objective of the edition is to provide unified use of anatomical terms at the international level and to eliminate contradictions in terminology.

Based on the opinions of many scientists, three groups of synonyms can be distinguished, depending on the degree of their semantic identity [1].

Group 1 – absolute synonyms, fully agreeing in meaning and use. For example, *cavum* and *cavitas* are absolute synonyms, meaning “cavity”. Previously, the term *cavum* was used to denote serous cavities: *cavum pectoris (thoracis)* (“thoracic cavity”), *cavum abdominis* (“abdominal cavity”). What was formerly denoted by the noun *cavum*, is now nearly always denoted by the noun *cavitas*: *cavitas abdominis* (“abdominal cavity”). The last version is more appropriate, since *cavum* means empty space, whereas *cavitas* is an inner space, a receptacle for organs. Such synonyms are presented in the anatomical nomenclature as individual cases [1].

Group 2 – nouns, characterized by historical compatibility with other words. Their presence may be due to several factors – e.g., various experts may have given different names to the same object.

The same object may have been named differently in different periods of terminology development. There are two terms meaning “zone”: *zona* and *area*. In the section of anatomical terminology, they have similar semantics “restricted field, zone”. Also, these words are specific in use due to their compatibility. They are used to denote a part of kidney. However, the word *zona* is used for the external renal zone – *zona externa (renis)*, while *area* is used for cancellous renal zone – *area cribrosa (renis)*.

Group 3 – terms of similar meaning, which are used to denote different notions and objects in Latin with one and the same terminological unit in Ukrainian. These terms are called quasi-synonyms. Human body

comprises a certain number of objects, similar in structure and functions, which are distinguished by their location and morphological similarity. In the Latin language, two different terminological units can be used. For example, *collum* (“neck”) – is a narrow passage from the head to the body of anatomical formation (*collum dentis* (“neck of tooth”), a *cervix* (“neck”) – narrowed and headless part of the organ (*cervix cornus dorsalis* (“neck of the posterior horn”); *cervix uteri* (“neck of the uterus”); *cervix vesicae* (“neck of the bladder”). Sometimes, a clarifying definition is introduced to differentiate the meaning of quasi-synonyms. As for instance, “cartilage” and “eyelid cartilage” are denoted by lexical units *cartilago* (Latin) and *tarsus* (Greek). Therefore, *cartilago auriculae* (“cartilage of the auricle”), *tarsus superior* (“superior eyelid cartilage”). At that, the main meaning of the word “tarsus” in the anatomical terminology – “part of foot between metatarsus and shin”. It has been suggested that *cartilago* and *tarsus* are equivalent synonyms with just slight semantic divergence: *cartilago* is used to denote hard cartilage, whereas *tarsus* – for the soft one. Also, there are couples of synonyms: Latin *nodus* (“node”) and Greek *ganglion* (“nerve bundle”), which denote different notions: *nodus lymphaticus cysticus* (“gallbladder lymphatic node”); *ganglion mesentericum craniale* (“superior mesenteric ganglion (nerve bundle)”). There are two synonyms for “layer” in Latin: *panniculus* and *stratum*. *Panniculus* is used in the meaning “fat layer” only: *panniculus adiposus* (“fat deposit”), whereas *stratum* (*stratum cerebrale* (“medulla”)) is used to denote anatomic structures in various body parts and systems.

A prime example is a Ukrainian noun “*ryба*” (lip) with Latin equivalents *labium* and *labrum*. The use of these nouns is regulated by a qualifying word or a notion the noun describes. For example, the noun *labium* is used for describing bones or soft tissues, whereas *labrum* is used for the cartilaginous tissue only [8, p. 34]. For example, *labrum acetabulare* (“cotyloid cavity lip”).

Latin *sutūra* and Greek *rhaphe* are used to denote “suture”, both terms meaning connection of separate parts. *Sutūra* is used when it comes to sutures on the bones, for example *sutūrapalatīnamediana* (“median palatal suture”). The term *rhaphe* is used for denoting the connector of the halves of symmetrical parts of the body or organs, e.g. *rhaphepalāti* – palatal; *rhaphepharyngis* – raphe of pharynx. The signs of twoness and symmetry in these nouns are the additional

differentiation criterion [8, p. 42].

Anatomical structures are differentiated according to their appearance. The anatomical term “fossa” with corresponding Latin nouns *fovea* and *fossa* may serve as an example. The term *fovea* implies the fossa of regular rounded shape, whereas *fossa* describes irregularly-shaped and oblong pit [8, p. 35]. It should be noted that some Latin terms, corresponding to the similar Ukrainian equivalent, describe different anatomical structures. The term “crossing” that has two Latin equivalents, *chiasma* and *decussatio*, is a good example. The noun *chiasma* denotes crossing of two anatomical structures, while *decussatio* is used to denote crossing of nerve fibres in the central nervous system [8, p. 64].

Due to the bilingualism of medical terminology, Latin vocabulary prevails in some fields of medicine, e.g., anatomy and histology, whereas in the clinical terminology Greek is mainly used. For example, in the medical anatomical terminology “*nasus*” – nose, “*septumnasi*” – nasal septum, while in the clinical one – Greek “*rhis, rhinos*”, cold – “*rhinitis*”, nasal pain – “*rhinalgia*” [8, p.75].

Besides, in the Latin anatomical terminology there are several synonyms for “fissure”, which denote different notions: *fissura*, *rima* i *hiatus*. The term “*fissura*” is translated as cranial fissure. The example is *fissura orbitalis superior* – superior palpebral fissure. The noun “*rima*” stands for pudental, oral (interlabial), and palpebral fissure. For example, *rima oris* – oral fissure, *rima palpebrarum* – space between two eyelids. The term “*hiatus*” indicates a small fissure. For example, *hiatus canalis nervi petrosi majoris* – hiatus of large petrosal nerve channel [8, p. 75].

Adjectives can also be included into this classification. Particularly, in the anatomical terminology there are adjectives with similar meaning, though having different compatibility, so forming the second group of synonyms.

For example, “sacral” is denoted by two Latin adjectives: *sacer*, *cra*, *crum* and *sacrālis*, e. The first adjective is used with the noun *os*, *ossis* n (“bone”): *os sacrum* (“sacral bone”) only, while the second – with the other nouns: *vertebra sacrālis* (“sacral vertebra”). “Round” is denoted by adjectives *rotundus*, *a*, *um* or *teres*, *ētis*. The first adjective is used with the noun “foramen” (*forāmen*, *īnis* n) – *foramen rotundum*, while the second – with nouns “muscle” (*musculus*, *m*) – *musculus teres* and “ligament” (*ligamentum*, *n*) – *ligamentum teres*. “Sublingual” is

denoted by adjectives *hyoideus*, a, um (os *hyoideum* (“sublingual bone”), *hypoglossus*, a, um (*nervus hypoglossus* (“sublingual nerve”) and *sublingualis*, e (in combination with the nouns except for “bone” and “nerve”) [8, p. 50]. “Arterial” – *arteriosus*, a, um means “pertaining to arterial blood: *circulus arteriosus cerebri* (“cerebral arterial circle”), *rete arteriosum* (“arterial network”), *conus arteriosus* (“arterial cone (cardiac)”), and its synonym *arterialis*, e (“pertaining to arteries”): *anastomosis arterialis* (“arterial anastomosis”). “Sphenoid” is most often denoted in the anatomical terminology by two adjectives: *sphenoidalis*, e and *cuneiformis*, e., the latter being mostly used to denote foot and larynx formations: *articulationes intercuneiformes* (“Intersphenoid joints (of the foot)”), *ligamenta intercuneiformia* (“Intersphenoid ligaments (of the foot)”), *cartilago cuneiformis* (“Sphenoid cartilage (larynx)”), *tuberculum cuneiforme* (“Sphenoid tubercle” (larynx)). However, we have found the only case of the adjective *cuneiformis* use for the description of the part of skull: *pars cuneiformis vomeris* (“sphenoid part of the swivel (skull)”). The adjective *sphenoidalis*, e. is used with other formations. It is noteworthy that both adjectives may be used with “bone”, but *os sphenoidale* denotes “sphenoid cranial bone”, whereas *os cuneiforme* – “sphenoid foot bone”. Also, occasional use of the adjective *cuneatus*, a, um in the meaning “sphenoid” has been found: *fasciculus cuneatus* (“sphenoid bundle” (*medulla oblongata*)) and *nucleus cuneatus* (“sphenoid nucleus” (midbrain)). “Navicular” may be denoted by two adjectives: *scaphoideus*, a, um and *navicularis*, e: *fossa scaphoidea* (“navicular fossa”), *facies articularis navicularis* (“navicular joint surface (of the lower limb)”). The adjective “navicular” is used in combination with the word “bone”: “navicular wrist bone” – *os scaphoideum*, and “navicular foot bone” – *os naviculare*. “Ethmoid” is denoted in the anatomical terminology by two terms: *cribrosus*, a, um in combination with the words “plate, zone” (of the kidney): *lamina cribrosa* (“cribriform plate”) *area cribrosa (renis)* (“cribriform kidney zone”), and *ethmoidalis*, e – with the other words: *infundibulum ethmoidale* (“cribriform funnel (nose)”), *processus ethmoidalis* (“cribriform process”), *sulcus ethmoidalis* (“cribriform sulcus”). Both adjectives can be used with the word “foramen”: *foramina cribrosa* (“cribriform foramen”), *foramen ethmoidale anterius* (“anterior cribriform foramen”), and are full synonyms [8, p. 50]. In the International Anatomical Nomenclature, the notion “pectoral” corresponds

with the adjectives *pectoralis*, e; *thoracicus*, a, um; *mammarius*, a, um. The first of them is used with the words “fascia”, “branch”, “node”: *fascia pectoralis* (“pectoral fascia”), *rami pectorales* (“pectoral branches (arteries)”), *nodi pectorales* (“pectoral (lymphatic) nodes”). The adjective *thoracicus*, a, um is used with the words “kyphosis”, “vertebra”, “cavity”, “artery”, “duct”: *kyphosis thoracica* (thoracic kyphosis), *vertebra thoracica* (thoracic vertebra), *cavitas thoracica* (thoracic cavity), *arteria thoracica* (“thoracic artery”), etc. Two adjectives are combined with the word «nerve»: *pectoralis*, e i *thoracicus*, a, um (*nervus pectoralis longus* (long pectoral nerve), *nervus thoracicus medialis et lateralis* (lateral and medial thoracic nerves) that has been formed historically. The adjective “mammarius”, a, um is used with “area” only: *regio mammaria* (mammary area). Besides, the adjective “pectoralis” occurs in the context: *pectoralis*, e: *regio pectoralis* (pectoral area). The difference in the use is due to the fact that *mammarius*, a, um describes the area of mammary gland, whereas the other adjective is associated with the thoracic cage. To denote the word “coronal”, three adjectives are used: *coronalis*, e; *coronoideus*, a, um; *coronarius*, a, um., all of them being used very restrictedly. *Coronalis*, e is used in combination with “suture” (skull) and “crown pulp” (tooth) only: *sutura coronalis*, *pulpa coronalis*. The adjective *coronoideus*, a, um is used to describe the processes of the lower jaw, ulnar bone and upper limb fossa: *processus coronoideus*, *fossa coronoidea*. *Coronarius*, a, um describes the cardiac sulcus: *sulcus coronarius* (crown cardiac sulcus). “Transverse” is denoted as *transversalis*, e in combination with the words “area”, “fascia”, (abdomen), “crest” (tooth): *crista transversalis* (transverse crest), *fascia transversalis* (transverse fascia (abdomen), etc.; *transversarius*, a, um – with the word “foramen”: *foramen transversarium* (transverse foramen of the cervical vertebra) and *transversus*, a, um in the other cases: *processus transversus* (transverse process (vertebra)), *musculus transversus abdominis* (transverse abdominal muscle), etc. In the anatomical terminology two adjectives are used in the meaning “large”: *magnus*, a, um i *major*, *majus*, the latter being the superlative degree of the first one. Despite common Ukrainian semantics, the two adjectives have some specifics of use in Latin. The adjective *magnus*, a, um is used only with the nouns which denote a single anatomical foramen: *foramen occipitale magnum* (large occipital foramen). Meanwhile, *major*, *majus* is used to denote

paired anatomical formations. In this case it is used in pairs with the adjective minor, minus: tuberculum majus - tuberculum minus (large tubercle – small tubercle) [8, p. 48].

Conclusions and Prospects for Research. Thus, by addressing modern anatomical terminology and through semantic differentiation of the words with similar meaning, together with studying compatibility of these terminological units in the Latin language, three groups of nouns-synonyms were found. Group 1 includes absolute synonyms, which come into use due to the revision of anatomical nomenclature and are of the same semantic meaning. Group 2 comprises nouns, often terminological pairs, having various compatibility in the anatomical terminology. Group 3, the most numerous group, includes so-called quasi-synonyms,

which are the terms with similar meaning, meant for differentiation of various anatomical notions. It has been determined that the signs of discerning Latin quasi-synonyms in the anatomical terminology are very different and may indicate the shape of the object, type of tissue, morphological similarity, location, etc. The study of the scanty group of Latin adjectives-synonyms has revealed that they may be included into Group 2 of the mentioned classification, since the choice of the term-adjective mostly depends on the compatibility, that is on the noun it is pertaining to.

Future study prospects are seen in analysing synonymic nouns and adjectives. Besides, integrated analysis of anatomical term system is desirable because of the disordered state of anatomical terminology.

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