

**PHARMACEUTICAL TERMS WITH ONOMASTIC COMPONENT:
QUANTITATIVE, STRUCTURAL AND LEXICO-SEMANTIC ANALYSIS**

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Background. The present paper examines the prevalence and role of eponymic terms in the Latin and English pharmaceutical terminologies.

Aim. The authors aim to conduct the quantitative, structural and lexico-semantic analysis of the names of medications with the proprial component.

Materials and methods. The research material in the amount of 147 units was obtained by the continuous sampling from the dictionaries, guidebooks and manuals on prescription-writing using the narrative and component analysis methods, by means of which the arrangement, systematization, classification and interpretation of the structural, semantic and functional features of the units under consideration have been conducted.

Results. The research has resulted in the delineation of the following groups of eponymic terms in the pharmaceutical terminologies of Latin and English: (1) semisolid dosage forms (formae medicamentorum molles): 81 title (55.1%); (2) liquid dosage forms (formae medicamentorum fluidae): 60 lexical units (40.8%); (3) solid dosage forms (formae medicamentorum solidae): 6 cases (4.1%).

Conclusions. The analysis of 147 units showed that the most extensive group of pharmaceutical terminology units with the eponymic component are the names that specify the dosage form of medication. The prospects for research are in the further in-depth study to examine the tendencies of eponymization in both synchronic and diachronic aspects.

Keywords: medical terminology, pharmaceutical terminology, eponymic terms, terminological collocations, onomastic component.

Introduction. Eponymic terms constitute the most common type of terminological phrases with onomastic component [1, p. 95-98]. A characteristic feature of such nominative units is their branched synonymy. Despite the fact that synonymy is considered to be undesirable for this type of vocabulary, a significant advantage of eponymic terms consists in their conciseness, which predetermines their prevalence in the functional speech [2; 3; 4; 5]. The undeniable advantages of eponymic terms are the lack of polysemy and, in general, their international nature of prevalence and acceptance. The eponymic terms clearly represent the anthropocentric essence of human thinking and language [6], as well as provide the continuity of scientific knowledge.

The analysis of literature on the subject of research has shown that the attention of scientists is focused on the anatomical, histological and clinical terminology, while much less attention is paid to pharmaceutical terminology. The publications of recent years [6; 7; 8; 9], as well as the authors' own researches [10; 11; 12; 13] confirm the fact that that eponymic terms (i.e., nomens with the proprial component) occupy a significant place in the structure of medical terminology. It is quite logical that the study of qualitative and quantitative characteristics of eponymic terms that function in different sublanguages does not lose its relevance. The aim of the research is to conduct the quantitative, structural and lexico-semantic analysis of the names of medications with the proprial component.

Materials and methods of the research. The research material in the amount of 147 units was obtained by the continuous sampling method from the *Extemporaneous Prescriptions*

for treatment of Skin Diseases [14], *Prescription-Writing Manual* by V. Yerenkov [15], *Compendium 2010 – Medications* [16], *Latin-Russian Pharmaceutical Dictionary* by T. Kazachenok [17], the two-volume reference book *Medicines* by M. Mashkovskiy [18; 19], the two-volume *Medical Dictionary* by K. Rudzitis [20], *Guidebook of the Extemporaneous Formulations* by A. Tikhonov [21]. The present paper is largely based on the narrative method of research, by means of which the arrangement, systematization, classification and interpretation of the structural, semantic and functional features of the units under consideration have been conducted. An additional method is the component analysis, used to establish and describe the syntactic structure of pharmaceutical terms with onomastic component.

Results. The analysis of the selected layer of pharmaceutical terms allows us to state that the most numerous group includes the eponymic terms, which specify the pharmaceutical form of medications. From the point of view of syntax, the majority of pharmaceutical eponyms are binomial phrases, formed on the basis of the model which is typical of Latin names with the eponymic component, and can be found in other terminology systems (first of all, anatomical, histological and clinical): noun in Nom. Sing. (rarely – in Nom Plur.) + the surname of the doctor (scientist) in Gen. Sing. That is to say, these terms are formed according to the syntactical non-preposition construction, or “uncoordinated attribute”. At the same time, the noun plays the role of the appellative component, while the eponym acts as the base unit.

Taking into account such characteristics as attribution to dosage forms: ***solid*** (formae medicamentorum solidae), ***semisolid*** (formae medicamentorum molles), ***liquid*** (formae medicamentorum fluidae), – a significant number of terms with the eponymic component is observed among the semisolid dosage forms – 81 lexical unit (55.1%). The largest number of titles (54 cases – 36.8% of the studied units) is represented by ointments (“***unguentum***”), for

instance: **unguentum Whitfieldi** (Arthur Whitfield, an English dermatologist, 1868-1947) – *Whitfield's ointment: contains benzoic acid and salicylic acid (acidum benzoicum et acidum salicylicum)*; **unguentum Credé** (Carl Siegmund Franz Credé, a German gynecologist, 1819-1892) – *Crede's ointment: contains collargol (Collargolum), distilled water (aqua destillata), lanolin / yellow wax (Lanolinum / cera flava), lard (adeps suillus)*; **unguentum Moro** (Moro Ernest, an Austrian pediatrician, 1874-1951) – *Moro's ointment, contains 50% of the old tuberculin ointment on lanolin*; **unguentum Hebrae** (Ferdinand Ritter von Hebra, an Austrian dermatologist, 1816-1880) – *Hebra's ointment is prescribed against scabies (contra scabiem)*; **unguentum Mikulicz-Radecki** (Jan Mikulicz-Radecki, a Polish surgeon, 1850-1905) – *Mikulicz-Radecki ointment contains 1% of silver nitrate and 10% of Peruvian balsam*; **unguentum Listeri** (Joseph Lister, an English surgeon, 1827-1912) – *Lister's ointment is prescribed as an antiseptic agent.*

In the context of our study, *Averin's ointment* deserves special attention – **unguentum Averini** (*Averin was a Russian merchant, who lived in St. Petersburg in the 19th century, the exact years of life could not be found*). *Averin's ointment is used as an antiseptic and anti-inflammatory agent for skin diseases, it is especially effective in the treatment of scabies (contra scabiem), it is also recommended for the treatment of furunculosis [14].* It should be noted that in 2016, *Averin's ointment* was included in the list of drugs recommended by the World Organization of Allergists (WAO). In the process of study, we found that in modern dermatology, two versions of *Averin's ointment* are used, which somewhat differ in composition:

Version 1

Recipe: Hydrargyri amidochloridi 10.0

Adipis suilli depurati 88.0

Version 2

Recipe: Hydrargyri amidochloridi 6.0

Adipis suilli depurati 48.0

Olei Bergamiae vel olei Coriandri 2.0

Olei Lavandulae 1.0

Misce. Da. Signa.

Olei Salviae 1.0

Misce. Da. Signa.

We also consider it necessary to dwell in more detail on such a preparation as Konkov's ointment (*unguentum Concovi*, *unguentum Konkovi* and *unguentum Konsovi*, since there are different Latin spellings of the name "Konkov"), used *ad usum externum* in the treatment of pyoderma, and also as a wound healing agent, for example, for burns and trophic ulcers. Our interest in this preparation is due to the fact that the ointment was at first developed by Konkov in two prescriptions, the first one containing such ingredients as ethacridine lactate (*Aethacridini lactas* – 3.0), distilled water (*aqua purificata* – 1.5), honey (*mel apium* – 65.0), vitaminized fish oil (*oleum jecoris Aselli vitaminisatum* – 35.0) and the second, having in its composition 3 dg of ethacridine (*Aethacridini* 0.3), 33.5 grams of fish oil (*olei jecoris Aselli* 33.5), 62 grams of bee honey (*mellis apium* 62.0), 3 grams of birch tar (*Picis liquidae* 3.0), 1.2 grams of distilled water (*Aquae purificatae* 1.2) and currently serves the basis for three types of Konkov's ointments used in dermatology: *Konkov's ointment with ichthyol* (*unguentum Concovi cum Ichthyolo*), *Konkov's ointment with benzylpenicillin* (*unguentum Concovi cum Benzylpenicillino*) and *Konkov's ointment with synthomycin* (*unguentum Concovi cum Synthomycino*).

In the selection process, we detected 1 case of four-component substantive pharmaceutical eponym, which was formed by combining the non-preposition construction with prepositional structure: *unguentum contra coryzam Simanowsky* – Simanovsky's ointment against rhinitis (Nikolay Simanovsky, a Russian otorhinolaryngologist, 1854-1922, a mentee of S. Botkin, the founder of otorhinolaryngology as a separate clinical branch).

As to the dosage form of "*pasta*", we detected 21 example (14.3%) with eponymic components: *pasta Lassari* (Oskar Lassar, a German dermatologist, 1849-1908) – *Lassar's*

*paste: contains zinc oxide (Zinci oxydum) and salicylic acid (acidum salicylicum); it is prescribed as a topical protecting and astringent agent; **pasta Rachmanovi** (O. Rakhmanov, a Soviet neuropathologist, 1878-1948) – Rakhmanov’s paste and others.*

The dosage form “**linimentum**” is not extensively represented by the eponymic terms: only 6 titles (4% of the studied cases): **linimentum Billrothi** (Christian Albert Theodor Billroth, a German surgeon, 1829-1894) – *Billroth’s liniment: contains iodoform (Iodoformium); it is prescribed as an antiseptic; **linimentum Vishnewsy** (syn. **unguentum Vishnewsy**) (Alexander Vishnevsky, a Soviet surgeon, 1874-1948) – *Vishnevsky’s balsamic liniment: contains tar (Pix liquida), xeroform (Xeroformium) and castor oil (oleum Ricini); it is intended for treatment of wounds and ulcers; **linimentum Rosenthalii** (Solomon Rosenthal, a Belarusian and Russian doctor, 1890-1955) – *Rosenthal’s liniment: comprises iodine (Iodum), paraffin (Paraffinum), ethyl alcohol (spiritus aethylicus), chloroform (Chloroformium); it is effective for treatment of inflammatory processes.***

The analysis of manual prescriptions of **liquid forms** revealed 60 lexical units, which constitutes 40.8%. In the course of the study, we identified 40 pharmaceutical eponymic terms with the main word “**solutio**”, which is 27.2% of the total number of the examined corpus of terminology units. Hence, in the article on “Solutio” (the dictionary by K. Rudzitis [20, p. 509]) there are: **solutio Hayemi** (Georges Hayem, a French physician, 1841-1933) – *Hayem’s solution: solution of mercuric dichloride (Hydrargyri dichloridum), sodium chloride (Natrii chloridum) and sodium sulfate (Natrii sulfas); **solutio Lugoli** (Jean Georges Antoine Lugol, a French physician, 1786-1851) – *Lugol’s solution: water solution of iodine with iodine potassium; **solutio Albrightii** (Fuller Albright, an American physician, 1900-1969) – *Albright’s solution: solution containing 75.0 of sodium citrate (Natrii citras), 25.0 of potassium citrate (Kalii citras), 140.0 of citric acid (Acidum citricum), 1000 ml of water (Aqua); **solutio Burowi** (Karl August von Burow,***

a German surgeon, 1809-1874) – *Burow's solution: solution of aluminum acetate (solutio Aluminii acetatis)*; ***solutio Randalli*** (Alexander Randall, an American urologist, 1883-1951) – *Randall's solution: includes acetate, bicarbonate and citrate salts of potassium*; ***solutio Fowleri*** (Thomas Fowler, an English doctor, 1736-1801) – *Fowler's solution, which is used for treatment of anemia.*

We identified 3 cases of three-word terminological phrases: ***solutio Ringer-Locke*** (Sydney Ringer, an English physiologist, 1835-1910; Frank Spiller Locke, an English physiologist, 1871-1949) – *Ringer-Locke solution is prepared ex tempore. The solution contains Natrii chloridi 9.0, Kalii chloridi 2.0, Calcii chloridi 2.0, Natrii hydrocarbonatis 2.0, Glucosi 1.0, aquae pro injectionibus ad 1000 ml.* These terms are based on the scheme: “solutio” + the surname of the doctor in Nom. Sing. + “dash” + the surname of the doctor in Nom. Sing. In this context, one can observe the extensive synonymy, for example: ***solutio Natrii lactatis composita pro injectionibus, Ringeri lactas, solutio Hartmanni pro injectionibus.***

Noteworthy is the model of eponymic formation where the proprial component – the surname of a doctor or a scientist (physiologist, pharmacologist) ends in a vowel. In these cases, the Latin equivalent preserves the surname in Nominative case. For example: ***solutio Magendie*** (François Magendie, a French physiologist, 1783-1855) – *Magendie's solution: contains morphine sulphate; it is prescribed ad usum parenteralem*; ***solutio Tyrode*** (Maurice Vejux Tyrode, an American pharmacologist, 1878-1930) – *Tyrode's solution: the modified Locke's solution containing magnesium.*

The word ***liquor, oris m*** had the following meanings in the classical Latin [20, p. 517]: 1) a liquid state; 2) moisture; 3) sea; 4) transparency. The contemporary anatomical nomenclature uses this term to refer to specific fluids, e.g., ***liquor cerebrospinalis*** – *cerebrospinal fluid, liquor*

folliculi – follicular fluid, *liquor Scarpae* syn. *endolympha* – Scarpa’s liquor syn. *endolympha*,
liquor amnii – amniotic fluid.

In the pharmaceutical terminology, the aforementioned term refers to a liquid that contains a substance for medical use. The overwhelming majority of them are binomial substantive names (6 cases – 4.1%). For example, *liquor Castellani* syn. *solutio Castellani* (Aldo Castellani, an Italian physician, 1879-1971) – *Castellani fluid* syn. *carbol-fuchsin solution*; *liquor Wickersheimeri* (Jean Wickersheimer, a German anatomist, 1832-1896) – *Wickersheimer’s fluid*, which is currently used to preserve anatomical preparations and contains arsenic trioxide (*Arsenici trioxydum*), sodium chloride (*Natrii chloridum*), sodium sulfate (*Natrii sulfas*), sodium carbonate (*Natrii carbonas*), potassium nitrate (*Kalii nitris*), water (*Aqua*), ethyl alcohol (*spiritus aethylicus*), glycerin (*Glycerinum*).

It should be noted that in some cases the “*liquor*” component in pharmaceutical terms has the meaning of “solution” and is synonymous to the same eponym-less formation with the word “*solutio*”: *solutio Fowleri* syn *liquor Kalii arsenitis* – *Fowler’s solution* syn. *potassium arsenite solution*.

In the authorized prescriptions of medications, the word “liquor” can be used within the meaning of “rinse”: *liquor Kartaschowi* – *Kartashov’s rinse*: contains thymol (*Thymolum*), menthol (*Mentholum*) and ethyl alcohol (*spiritus aethylicus*), as well as the meaning of “formula”: *liquor Kefferi* – *Keffe’s formula* (Haldan Keffer Hartline, an American physiologist and biophysicist, 1903-1983).

The conducted research confirmed that pharmaceutical terminology, as other terminology sublanguages of medicine, often contains the equivalents of eponyms – the multiple-word descriptive terms such as: *solutio Locke-Ringeri* syn. *solutio Natrii chloridi composita* – *Ringer-Locke solution* syn. *composite solution of sodium chloride*; *solutio Burowi* syn. *solutio topicalis*

Aluminii acetatis – *Burow's solution* syn. *topical solution of aluminum acetate*; **liquor Burowi** syn. **liquor Aluminii subacetatis** – *Burow's fluid* syn. *solution of basic aluminum acetate*. Analyzing this phenomenon, we came to the conclusion that eponyms are more concise and space-saving, and thus more convenient for use than the corresponding multiple-word descriptive terms.

While examining such liquid dosage form as “*mixtura*” (mixture), we found 8 eponyms (5.4%): ***mixtura Bechterevi*** (Vladimir Bekhterev, a Russian neuropsychiatrist, 1857-1927) – *Bekhterev's mixture is used for treatment of heart diseases; a combined preparation, containing infusion of the spring adonis grass (infusum herbae Adonidis vernalis ex 6.0 – 180 ml), sodium bromide (Natrii bromidum 6.0), codeine phosphate (Codeini phosphas 0.2)*; ***mixtura Tellysniczky*** (K. Tellysniczky, a Hungarian anatomist, 1868-1932) – *Tellysniczky's mixture: a fixative solution containing potassium bichromate (Kalii bichromas), water (Aqua) and the so-called glacial acetic acid (Acidum aceticum anhydricum syn. Acidum aceticum concentratum), that is, acetic acid whose concentration is approaching 100%*; ***mixtura Ringeri*** – *Ringer's mixture: a sterile solution containing 900 mg of sodium chloride (Natrii chloridum), 35 mg of potassium chloride (Kalii chloridum), 36 mg of calcium chloride (Calcii chloridum)*; it is prescribed as a physiological saline for topical application; ***mixtura Krasnogorsky*** (Mykola Krasnogorsky, a Soviet pediatrician and physiologist, 1882-1961) – *Krasnogorsky's mixture*; ***mixtura Seppi*** (Yevgeniy Sepp, a Russian neuropathologist, 1878-1957) – *Sepp's mixture*, ***mixtura Pavlovi*** (Ivan Pavlov, a Russian physiologist, 1849-1936) – *Pavlov's mixture*.

The medicinal form of “*lotiōnes*” denotes the officinal liquid preparations for application to the skin, washing eyes, ears, larynx and nose. We found one example with the eponymic component (0.7%): ***lotio Goulardi*** (Thomas Goulard, a French physician, 1697-1784) –

Goulard's lotion (also known as Goulard's water), which is a diluted solution of basic lead acetate (Solutio Plumbi subacetatis diluta).

We found 4 (2.7%) eponymic terms with the dosage form **balsamum, i n** – *balsam*, which is a liquid with aromatic odor, e.g., **balsamum Schostakowsky** (Mikhail Shostakovskiy, a Russian organic chemist, 1905-1983) – *Schostakowsky balsam: promotes the wound cleansing and development of granulation.*

We found 1 (0.7%) eponymic terms with the dosage form **spiritus Mikulitschi** (*Mikulicz's spirit*), which is intended for treatment of furunculosis and is composed of [14]: *oleum Olivarum – 12.0, solutio Kalii hydroxydi vel solutio Natrii hydroxydi – 14 ml, spiritus aethylicus – 60 ml, aqua purificata – 34 ml).*

Formae medicamentōrum solidae with the eponymic component are the rarest: we detected only 6 examples (4.1%) of “**pulvĕres**”, e.g., **pulvis Kotschalowsky** (Maksim Konchalovsky, a Soviet physician, 1875-1942) – *Konchalovsky's powders*; **pulvis Botkini** (Sergey Botkin, a Russian physician, 1832-1889) – *Botkin's powder: effervescent powder containing sodium bicarbonate (Natrii bicarbonas), tartaric acid (acidum tartaricum) and sodium sulphate (Natrii sulfas); it is prescribed as a laxative*; **pulvis Doveri** syn. **pulvis Ipecacuanhae opiātus, Pulvis Opii et Ipecacuanhae compositus** (Thomas Dover, an English doctor, 1660-1742) – *Dover's powder: contains opium and ipecacuanha; it is prescribed against cough*; **pulvis Preobragensky** (Boris Preobrazhenskiy, a Soviet otolaryngologist, 1892-1970) – *Preobrazhenskiy's powder: contains white streptocide (Streptocidum album), Sulfazolium, Sulfidinum*; **pulvis Rosentuli** (M.A. Rosentul, a Russian dermatovenereologist, 1892-1981) – *Rosentul's powder is used for treatment of certain skin diseases*, **pulvis Worobjevi** (Andrey Vorobyov, a Russian hematologist, 1928) – *Vorobyov's powder is prescribed for treatment of epilepsy.*

Furthermore, we conducted the research as to the presence of the same eponymic name as a component of different dosage forms: *solutio physiologica Ringer-Locke* and *tabletae Ringer-Locke*; *unguentum Wischnewsky*, *linimentum Wischnewsky* and *liquor Wischnewsky*, *spiritus Mikuliczi (Mikulitschi)* and *unguentum Mikuliczi (Mikulitschi)*. In our opinion, this fact testifies to the competence of the authors, the evolution of the research thinking and professional experience. In addition, it should be noted that one can observe the same surnames in the list of clinical terms with the eponymous component. For example, in the *Latin-Ukrainian Dictionary of Clinical Terms* [10], the following names are recorded: *Mikuliczi syndromum* and *Mikuliczi morbus*, *Behtererevi morbus*, *Hebra-Kaposi impetigo herpetiformis*.

Discussion. Summarizing the aforesaid, it should be noted that for the formation of eponymic names in the pharmaceutical terminology, the following model is the most productive: the signifying word in Nom. Sing. + eponym in Gen. Sing. The typical structural formula consists of two components. The synonymic rows are rarely observed.

The absence in the studied lexicographic sources of any examples with the eponymic component for other known dosage forms, e.g., *tinctura*, *extractum*, *sirupus*, *suspensio*, *suppositorium*, requires further in-depth study in order to follow the trends of eponymization in both synchronic and diachronic aspects.

Conclusions. The results of the study confirmed the fact that the pharmaceutical terminology contains much less eponymic names than other sublanguages of medicine. The analysis of 147 units showed that the most extensive group of pharmaceutical terminology units with the eponymic component are the names that specify the dosage form of medication. In the overwhelming majority, they are binomial terminological phrases formed on the basis of the model which is typical of Latin names with the eponymic component and are found in other terminology systems (first of all, anatomical, histological and clinical): noun in Nom. Sing.

(much less often – in Nom Plur.) + the surname of the inventor in Gen. Sing. At the same time, the noun plays the role of the appellative component, while the eponym acts as the base unit. Syntactically, such terms belong to the “uncoordinated attribute” group.

The prospects for further research are in the study of pharmaceutical terms with other onomastic categories, in particular, the toponymic components, as well as eponymic terms with the abbreviated version of the inventor’s surname.

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