DIVERSITY OF LITHUANIAN AND LATIN ANATOMICAL TERMS IN THE TEXBOOK "ŽMOGAUS ANATOMIJA. KAULAI. JUNGTYS"

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Abstract

The Romans took over Greek medical knowledge, translating and re-writing Greek books. The greatest Roman scholar was Celsius who is considered a founder of Latin medical terminology. The Latin language lacked the names for many medical notions, especially the terms for pathological conditions, which is why Celsius and others had to translate Greek terms into Latin, while simultaneously using Greek terms in the Greek form. This way the two-fold Latin-Greek medical terminology was founded. The Greek part of the terminology was latinized.

Even long after the fall of the Roman Empire, Latin was still the language of communication. Medical terminology based on Latin and Greek has several advantages: it provides continuity between the past and the present as well as continuity inspace; Latin terminology is used all ove the world; the grammatical system and vocabulary of Latin and Greek do not change, therefore; modern terms are still based on these dead languages; it has a practical importance in Medicine – the patient does not understand it and cannot draw adequate conclusions (Bujalková, 2018).The object of the article is the relations between Lithuanian and Latin one-word and compound anatomical terms. The purpose of the article is to reveal the similarities and differences between one-word and compound Englishand Latin anatomical terms by structureof components. To achieve the purpose, the following research tasks are set:to review the evolution of anatomical nomenclature,to compare Englishand Latin one-word and compound anatomical terms according to the diversification of structure of components, to systematize diversification aspects of components of English and Latin terms. The method of theoretical analysis is used to examine scientific literature, the comparative analysis of terms enables systematization and generalization of English andLatin anatomical terms in the resource.

Key words: Latin anatomical terms, Lithuanian one-word terms, grammatical configurations, Lithuanian compound terms; diversity of compound term structures

LATIN IN MEDICAL TERMINOLOGY

There is hardly any other aspect of medicine that is so discouraging for the beginning student as medical terminology. The first impact of the long, unfamiliar words is decidedly depressing. Although medical terms have been drawn from many languages, a large majority are from Greek and Latin. Some familiarity with the meaning of the most frequently used roots, prefixes, and suffixes will larify the whole field. With a little study, it will be found that the long and formidable sounding medical erms are a combination of words which describe parts of the body, a function, or a condition. The basic terms occur over and over again in various combinations. A knowledge of the meaning of the roots, prefixes, and suffixes enables the student to analize the medical terms into component parts. This is of the greatest aid in learning to understand the vocabulary of medicine. Some names of diseases given by the ancients and still used to-day are, in many instances, simply descriptions of the outstanding symptoms(Banay, 1948).

The study of Latin and Greek provides with a better understanding of the language which has been so strongly influenced by Roman and Greek languages. The pursuit of Latin and Greek language skills not only provides the broadening experience which comes from learning how to think and express oneself in anotherlanguage, but can also be great aid to building vocabulary and language skills in English and other languages. Latin and Greek literature and mythology introduce you to classical authors whose excellence is beyond question and whose works and genres have influenced Western literature down to our ownday.

Greek language is the language of	Homer, Socrates, Plato, Aristotle, Diogenes, Plutarch and the Bible
Latin language is the language of	Plautus, Terence, Cicero, Vergil, Horace, Ovid, St. Augustine and St.Francis of Assisi.

After the Roman conquest of Britain under Emperor Claudius, the native Picts' Celtic language first became infused with Latin, then merged with the new invaders' Germanic (Anglo-Saxon) dialects, and finally became English (Kondratjev, 2005).

As the Romans conquered, Latin became the universal language of Italy and the provinces. Many centuries after the fall of Rome, Latin still ruled supreme. To this veryday, Latin is the language of the Catholic Church, and during the formative period of the western European languages it was in corporated in everyone of them. The Romance languages, and especially French, is modern Latin, preserving most of the formand spirit of the ancient language. English is to some extent Germanic informand part of its vocabulary, but a considerable section is of Latin ancestry borrowed from the French. Most of the common roots of speech are Anglo-Saxon, but from the moment we leave primityve life and advance to more civilized living, our words immediately become Latin. We walk, start, stop, breathe, sleep, wake, talk, live and liein Anglo-Saxon but we advance, retreat, approach, retire, inspire, confer, discuss, compare, refute, debate, perish, survive in Latin, and the predominant part of the vocabulary of business, commerce, finance, government, diplomacy, and the sciences is Latin. Greek medicine migrated to Rome at an early date, and many Latin terms crept into its terminology. Latin was the language of science up to the beginnin of the 18th Century, so all medical texts were written in Latin. Under the influence of the great anatomical work of Andreas Vesalius, De humani corporis fabrica (1543), the terminology of anatomy is almost exclusively Latin (Banay, 1948).

The branches of science in which Latin has traditionally found its application involve indisputably medicine. While until the close of the Middle Ages a medical text not written in Latin was a rare exception, modern languages began to gain ground with increasing intensity from the 16th century on. Although in France there even was a court case held against a certain doctor named Rivière, in which he was accused of not being actually able to be a doctor because he did not have a good command of Latin, it wasin France that Latin first started retreating from medicine, followed by Italy and later England. On the other hand, in Germany and in the central European area Latin survived even in teaching until as late as the 19th century. Despite the obvious retreat of Latin from the medical terminology in the 20th century, Professional communicative acts in the NATIONAL languages have so fa been realised with the use of international Latin-Greek terms. This state follows from the advantages that have been generally known: terminologicalcontinuity, on the one hand the present paper offers an up-to-date view of the status of Latin as the language of medicine, namely in its terminological component. It is concerned in greater detali with the three basic terminological vocabularies in which a doctor cannot sofar manage without its knowledge. In this sense a primary rank is occupied by anatomical nomenclature whose international versijon remains Latin in the full extent(Marecková, Šimon, Cervený, 2002).Apart from this, Latin and Greek constitute a unique stock which may also be drawn upon in case of the need of creating a new term. The incomprehensibility of the two languages for the patient is a specific moment of preference, as it is not always in his or her interest to understand the utterances of physicians.

The first attempt to unify the nomenclature of anatomy was made by the German Anatomical Society.In 1895, the Congress of Anatomists in Basel discussed and approved the draft of the nomenclature of anatomy, submitted by a special commission that worked on it for 8 years, which later acquired the name BaselerNominaAnatomica(BNA).In 1998, a new classifier of anatomical terms, Corpus, TerminologiaAnatomica, was published. FCAT (Federative Committee on Anatomical Terminology) endorsed Latin expressisverbis as "the best (definitive) language for terminology". Latin is described as global and "non-global"; i.e., intended for the entire world and all professional levels. As a "dead" language, Latin does not change and does not belong to any nation. Due to the long-lasting closure of the countries' international scientific relations, the medical science in each country was developing its own nomenclature. In the long run, a great confusion of anatomical terms arose, since newly discovered parts of human organswere called by names chosen on different principles. Many organs or their parts had several names each, and there were also numerous terms related to the names of discoverers, the priority of whomcould not always be determined with certainty.As indicated by the Medical Terminology Commission, there are few terms that would be recognized, accepted by all; we do not have many terms at all, and this causes great difficulties not only for authors of articles, the teachers of medicine, but also for every doctor. The purist attempts of scholars at the beginning of this century to maximally or oven completely abandon international terms did not receive approval (Keinys, 1980). The same can be also said about the medical terminology of other nations. Polish scholar shave composed almost all terms in Polish (Indrašius, 1967). Czechs and Hungarians have replaced many international terms with their own, often not quite right words (Rosinas, 1999).

Medical terminology may be divided into two main parts: anatomical (based on Latin) and clinical (based on Greek). The modern anatomical terminology is based on th centuries-old tradition and knowledge that is constantly revised. Clinical medicine has not finished its development. The names of diseases were formed empirically in various times and places therefore clinical terminology is not so uniform. Besides, clinical subjects continue to develop, so their knowledge must be continually revised(Bujalková, 2018).

It is estimated that about three-fourth so four medical terminology is of Greek origin. The main reason for this is that the Greeks were the founders of rational medicine in the golden age of Greek civilization in the 5th century B.C. The Hippocratic Schooland, lateron, Galen (the Greek from Asia Minor who lived in Rome in the 2nd century A.D.) formulated the theories which dominated medicine up to the beginning of the 8th century. The Hippocratics were the first to describe diseases based on observation, and the names given by them to many conditions are stillused today. A second reason for the large number of Greek medical terms is that the Greek language lends itself easily to the building of compounds. The fact is that about one-half of our medical terminology is less than a century old. A third reason for using the classical roots is that they form an international language, easily understood by anyone familiar with the subject matter. (Banay, 1948).
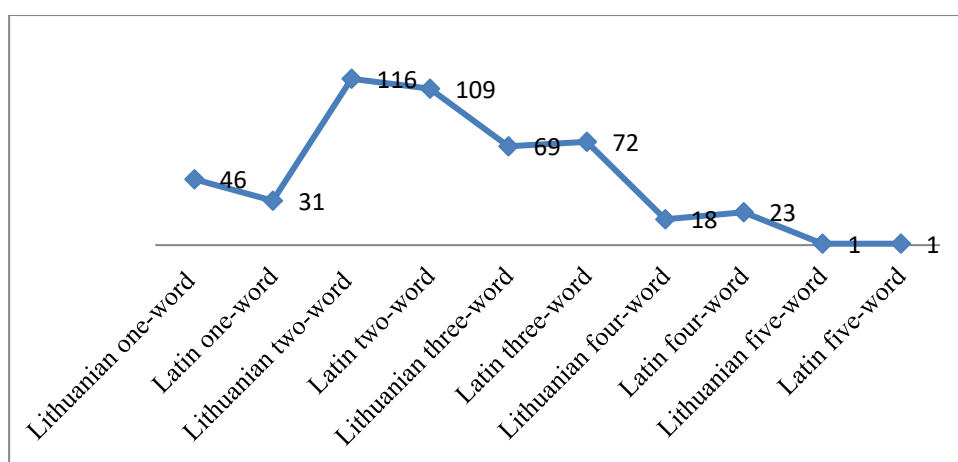

Fig. 1. *Lithuanian and Latin compound anatomical terms in terms of structure*

The research object consists of 250 Lithuanian one-word and compound anatomical terms and 236 Latin one-word and compound anatomical terms (486 terms in total). Anatomical terms are collected from the book "*Žmogausanatomija. Kaulai. Jungtys*"("*Human Anatomy. Bones. Connections*") written by P. Zachovajevas, A. Karpavičienė, A. Seibutienė.

According to the authors of the book, human anatomy is the study of the structure of the body and its parts, ontogenesis, age and gender peculiarities, and the connection between formand function. One of the main parts of this science studines the aparatus of support and movement, consisting of active (muscles) and passive (bones and their joints) parts.

This textbook does not delve into the history of human anatomy, nor does it provide knowledge of muscle tissue and muscles. The focus is on descriptions of tissues, bones and joints. The text is supplemented with the Latin equivalents of the main terms, and the Picture with the corresponding Latin terms are placed next to the pictures with the Lithuanian terms.

According to the number of words that make up the term, medical terms, like terms in general, are divided into one-word and compound terms. In the nomenclature of anatomy, *NominaAnatomica*, the axial names of parts of the human body are one-word.All English and Latinone-word anatomical terms are nouns. According to the provisions of the PNA, every organ must be named by only one term. One-word anatomical terms make up only a small portion of anatomical terms. They name the concepts of the main parts and organs of the human body.

In terms oforigin, one-word Lithuanian anatomical terms found in the source have formed on the basis of the lexicon of their own language:kraujas – sanguisZAKJ8; limfa – lymphaZAKJ9; os – kaulasZAKJ13; ašis – axisZAKJ17; dantis – densZAKJ17; viršūnė – apexZAKJ18; skiauterė – cristaZAKJ18; šonkaulis – costaZAKJ18; kūnas – corpusZAKJ18;

galva – caputZAKJ18; collum – kaklasZAKJ18; gumburėlis – tuberculumZAKJ18; krūtinkaulis – sternumZAKJ19; rankena – manubriumZAKJ19; mentė – scapulaZAKJ19; raktikaulis – claviculaZAKJ19; kampas – angulusZAKJ19; žastas – brachiumZAKJ19; plaštaka – manusZAKJ19; alkūnkaulis – ulna ZAKJ20; sparnas – alaZAKJ21; šlaunis – femurZAKJ22; pėda – pesZAKJ22; noragas – vomerZAKJ26; šeivikaulis – fibulaZAKJ22.

Most of one-word anatomical terms are simple Lithuanian and Latin or Greek root words. From the given Lithuanian and Latin one-word terms, it can be seen that that most of them are short: monosyllabic or bisyllabic. The analysis of the terms shows that rarely one-word terms are trisyllabic and foursyllabic.

Latin equivalents of Lithuanian one-word anatomical termscan be Latin one-word terms, Latin two-word terms and Latin three-word terms. Statistically, it looks like this:
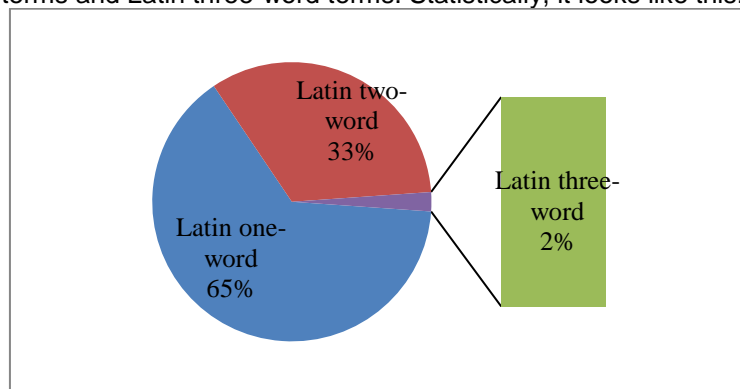

Fig. 2. *Latin equivalents of Lithuanian one-word termsin terms of structure*

LITHUANIAN AND LATIN COMPOUND ANATOMICAL TERMS
1. LITHUANIAN TWO-WORDANATOMICAL TERMS AND THEIR LATIN EQUIVALENTS

However, medical terminology is mostly made up of compound terms. According to scholars,only combinations of words can have an accurate scientific expression, because the more words make up the term, the more precisely it can be expressed (Danilenko, 1986).

Lithuanian and Latin compound terms form a separate group in medical terminology. Their productivity is determined by the suitability of the Latin language to economically and succinctly express an idea when the native language equivalent is expressed in a periphrasis (Marečkova, Širnon, Červeny, 2002).Lithuanian two-word anatomical terms and their Latin equivalents form ten used types of grammatical configurations:

1. Adj^1_{Ni}+ S_N↔ S_N + Adj_N (Litevkienė, 2006)
2. Adj_{Nn}+ S_N↔ S_N +Adj_N;
3. S_G + S_N↔ S_N + S_G;
4. S_G + S_N↔ S_N + Adj_N;
5. Adj_{Nns} + S_N↔ S_N + Adj_N;
6. Adj_{Nn} + S_N↔ S_N + Adj_{NC};
7. Adj_{Ni} + S_N↔ S_N + Adj_{NC};
8. S_{Gs} + S_N↔ S_N + S_G + Adj_G;
9. Adj_{Nn} + S_N↔ S_N + Adj_N + Adj_N;
10. S_G + S_N↔ S_N

The following grammatical configurations are characteristic of Lithuanian two-word terms and their Latin equivalents:
Type 1. Nominative of a pronominal adjective (attribute) + nominative of a noun (determinative) ≡[2]nominative of a noun (determinative) + nominative of anadjective(attribute):
plokščiasis epitelis – epithelium simplexZAKJ6; kubiškasis epitelis – epithelium cuboideumZAKJ6; stulpiškasis epitelis – epithelium columnareZAKJ6; ilgieji kaulai – ossa longaZAKJ15; trumpasis kaulas – os breveZAKJ15; plokštieji kaulai – os planumZAKJ15; netaisyklingieji kaulai – os irregaluareZAKJ15; akytieji kaulai – os spongiosaZAKJ15; plokštieji kaulai – os planaZAKJ15; artimasis galas – extremitas proximalisZAKJ20; artimasis pirštakaulis – phalanx proximalisZAKJ21; tolimasis pirštakaulis – phalanx distalisZAKJ21

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[1]S – Noun; Adj– adjective; P –participle; N –numeral; NO– ordinal, N– Nominative; G– Genitive; C–comparative degree; S– superlative degree, s – combined
[2]identical

Type 2. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of a noun (determinative) ≡ nominative of a noun (determinative) + nominative of anadjective (attribute):
kaulinis audinys – textus osseusZAKJ11; nervinis audinys – textus nervosusZAKJ11; oriniai kaulai – os pneumaticumZAKJ15; įterptiniai kaulai – os sesamoideumZAKJ15; vamzdiniai kaulai – os tubulosaeZAKJ15; keterinė atauga – processus spinosusZAKJ17; šoninės masės – massae lateralisZAKJ17; dubeninis paviršius – facies pelvicaZAKJ18; skersinės linijos – lineae transversaeZAKJ18; stuburinis galas – extremitas vertebralisZAKJ18; kardinė atauga – processus xiphoideusZAKJ19; šonkaulinės įlankos – incisurae costalesZAKJ19; raktikaulinės įlankos – incisurae clavicularesZAKJ19; petinis galas – extremitas acromialisZAKJ19; krūtinkaulinis galas – extremitas sternalisZAKJ19; deltinė šiurkštuma – tuberositas deltoideaZAKJ20; vidinis krumplys – condylus medialisZAKJ20; vainikinė duobutė – fossa coronoideaZAKJ20; kaulinis kraštas – margo interosseusZAKJ20; sąnarinis apvadas – circumferentia articularisZAKJ20; užtvarinė anga – foramen obturatumZAKJ22; gubrinė duobė – fossa trochantericaZAKJ22; sėdmeninėšiurkštuma – tuberositas gluteaZAKJ22; vidinis krumplys – condylus medialisZAKJ22; šoninis krumplys – condylus lateralisZAKJ22; sąnarinis paviršius – facies patellarisZAKJ22; sąnarinis paviršius – facies patellarisZAKJ22; vidinė kulkšnis – malleolus medialisZAKJ22; skaidulinės jungtys – juncturae fibrosaeZAKJ28; kremzlinė jungtis – juncturae cartilagineaeZAKJ28; klubakaulio skiauterė – crista iliacaZAKJ21.

Type 3. Genetiveof anoun (attribute) + nominativeof a noun (determinative) ≡ nominativeof a noun (determinative) + genetive of a noun(attribute):
slankstelio kūnas – corpus vertebraeZAKJ17; slankstelio lankas – arcus vertebraeZAKJ17; danties duobutė – fovea dentisZAKJ17; šonkaulio vaga – sulcus costaeZAKJ18; mentės dyglys – spina scapulaeZAKJ19; alkūnės duobutė – fossa oleacraniZAKJ20; kaukolės kaulai – ossa craniiZAKJ24; peties sąnarys – articulatio humeriZAKJ35; klubo sąnarys – articulatio coxaeZAKJ38; kelio sąnarys – articulatio genusZAKJ38; danties duobutė – fovea dentisZAKJ43.

Type 4. Genetive of a noun (attribute) + nominative of a noun (determinative) ≠³nominative of a noun (determinative) + nominative of an adjective(attribute):
slankstelio anga – foramen vertebraleZAKJ17; stuburo kanalas – canalis vertebralisZAKJ17; kaklo slanksteliai – vertebrae cervicalesZAKJ17; krūtinės slanksteliai – vertebrae thoracicaeZAKJ17; juosmens slanksteliai–vertebrae lumbalesZAKJ18; jungo įlanka – incisura jugularisZAKJ19.

Type 5. Nominative of an adjective with the suffix inis,ė (combined)(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective (attribute): tarpslenkstelinė anga – foramen intervertebraleZAKJ17; pakauškaulio žvynas – squama occipitalisZAKJ24; šeivikaulinė įlanka – incisura fibularisZAKJ22; alkūnkaulio šiurkštuma – tuberositas ulnaeZAKJ20; alkūnkaulio galva – caputulnaeZAKJ20; šlaunikaulio galva – caput femorisZAKJ22; kryžkaulio kanalas – canalis sacralisZAKJ18; stuburgalio slanksteliai – vertebrae coccygeaZAKJ18;žastikaulio kaklas – collum anatomicum20.

Type 6. Nominativeofanadjectivewith the suffix inis,ė(attribute) + nominativeof a noun (determinative) ≠nominativeof a noun (determinative) + nominativeofa comparative (attribute):
priekinis lankas – arcus anteriorZAKJ17; užpakalinis lankas – arcus posteriorZAKJ17; užpakalinis lankas – arcus posteriorZAKJ43; priekinis lankas – arcus anteriorZAKJ43; užpakalinis gumburėlis – tuberculum posteriusZAKJ43; priekinis gumburėlis – tuberculum anteriusZAKJ43.

Type 7. Nominative of a pronominal adjective(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of a comparative (attribute):
didysis iškilimas – tuberculum majusZAKJ20; mažasis iškilimas – tuberculum minusZAKJ20; didysis gubrys – trochanter majorZAKJ22; mažasis gubrys – trochanter minorZAKJ22; didysis sparnas – ala majorZAKJ24; mažasis sparnas – ala minorZAKJ24; mažieji ragai – cornua minoraZAKJ26; didieji ragai – cornua minoraZAKJ26.

Type 8. Genetiveof a noun (combined)(attribute) + nominativeof a noun (determinative) ≠nominativeof a noun (determinative) + genetiveofa noun (attribute) + genetiveofanadjective:
sėdynkaulio šaka – ramus ossis ischiiZAKJ22; kryžkaulio šiurkštuma – tuberositasossis sacriZAKJ15; sėdynkaulio šaka – ramus ossis ischiiZAKJ22.

Type 9. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective + nominative of anadjective:
vidinis pleištukas – os cuneiforme medialeZAKJ139; vidurinis pleištukas – os cuneiforme intermediumZAKJ139.

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³different

Type 10. Genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative):

kelio girnelė – patellaZAKJ22; viršutinis žandikaulis – maxillaZAKJ26; apatinis žandikaulis – mandibulaZAKJ26.

According to the frequency of identity or difference between the components of terms, the terms in this group are grouped as follows:

Lithuanian	*two-word*	*terms*	Identity/difference		*Latin*	*equivalents*	
Types	subordinate component	maincomponent	≡	≠	maincomponent	I subordinate component	IIsubordinate component
$Adj_{Ni} + S_N \leftrightarrow S_N + Adj_N$ **N[4]=18**	adjective (nominative)	noun (nominative)	≡		noun (nominative)	adjective (nominative)	-
$Adj_{Nn} + S_N \leftrightarrow S_N + Adj_N$ **N=41**	adjective (nominative)	noun (nominative)	≡		noun (nominative)	adjective (nominative)	-
$S_G + S_N \leftrightarrow S_N + S_G$ **N=16**	noun (genetive)	noun (nominative)	≡		noun (nominative)	noun (genetive)	-
$S_G + S_N \leftrightarrow S_N + Adj_N$ **N=7**	noun (genetive)	noun (nominative)		≠	noun (nominative)	adjective (nominative)	-
$Adj_{Nns} + S_N \leftrightarrow S_N + Adj_N$ **N=10**	adjective (nominative)	noun (nominative)		≠	noun (nominative)	adjective (nominative)	-
$Adj_{Nn} + S_N \leftrightarrow S_N + Adj_{NC}$ **N=6**	adjective (nominative)	noun (nominative)		≠	noun (nominative)	adjective (comparative) (nominative)	-
$Adj_{Ni} + S_N \leftrightarrow S_N + Adj_{NC}$ **N=10**	adjective (nominative)	noun (nominative)		≠	noun (nominative)	adjective (comparative) (nominative)	-
$S_{Gs} + S_N \leftrightarrow S_N + S_G + Adj_G$ **N=3**	noun (genetive)	noun (nominative)		≠	noun (nominative)	noun (genetive)	adjective (genetive)
$Adj_{Nn} + S_N \leftrightarrow S_N + Adj_N + Adj_N$ **N=2**	adjective (nominative)	noun (nominative)		≠	noun (nominative)	adjective (nominative)	adjective (nominative)
$S_G + S_N \leftrightarrow S_N$ **N=3**	noun (genetive)	noun (nominative)		≠	noun (nominative) (nominative)	-	-

Table 1. Frequency of components of compound terms by grammatical configurations.

In Lithuanian two-word anatomical terms, the secondary component is usually expressed by the agreed attribute (types 1,2,5,6,7,9); less often, by the non-agreed attribute (types3, 4, 8, 10). Secondary components are usually expressed by adjectives. In Latin equivalents, secondary components are usually expressed by agreed attributes (types3, 8). Identical types of Lithuanian and Latin two-word anatomical terms account for30 percent of all types of terms of this kind. Two-thirds of types of grammatical configurations are different. The secondary components also usually expressed by adjectives (positive adjectives orcomparative adjectives).

When discussing aspects of coincidence and difference between Lithuanian and Latin components, it is necessary to point out that there are no forms of the pronominal adjective and participle in Latin.

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[4]Number of terms.

Almost half of Lithuanian attributive components consist of adjectives with suffixes-inis, -inė (4 out of 10 configuration types).

2. LITHUANIAN THREE-WORD TERMS AND THEIR LATIN EQUIVALENTS

Lithuanian three-word anatomical terms make up 14% of all found compound anatomical terms; Latin three-word CTs[5], 15%. Statistically, these Lithuanian and Latin terms are used quite often in anatomical terminology. They are surpassed only by two-word terms.Latin equivalents of Lithuanian three-word terms can be three-word and four-word terms.

The following types of configurations of Lithuanian three-word terms and Latin equivalents have been observed:

1. $Adj_{Ni} + P_{Ni} + S_N \leftrightarrow S_N + Adj_N + Adj_N$;
2. $Adj_{Nn} + P_{Ni} + S_N \leftrightarrow S_N + Adj_N + Adj_N$;
3. $Adj_{Nn} + P_{Ni} + S_N \leftrightarrow S_N + Adj_N + Adj_{NC}$;
4. $Adj_{Nn} + S_G + S_N \leftrightarrow S_N + Adj_N + Adj_N$;
5. $Adj_{Gn} + S_G + S_N \leftrightarrow S_N + S_G + Adj_G$;
6. $Adj_{Nn} + Adj_{Nn} + S_N \leftrightarrow S_N + Adj_N + Adj_N$;
7. $Adj_{Nn} + S_G + S_N \leftrightarrow S_N + Adj_N + Adj_{NC}$;
8. $Adj_{Gi} + S_G + S_N \leftrightarrow S_N + Adj_N + Adj_{GC}$;
9. $Adj_{Gn} + S_G + S_N \leftrightarrow S_N + S_G + Adj_G$;
10. $S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G$;
11. $S_G + S_G + S_N \leftrightarrow S_N + Adj_N + Adj_N$;
12. $S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + S_G$;
13. $Adj_{Nn} + S_G + S_N \leftrightarrow S_N + Adj_{NC} + S_G + S_G$;
14. $S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + Adj_{GC}$;

Type 1. Nominative of a pronominal adjective (attribute) + nominative of a pronominal participle (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective (attribute) + genetive of anadjective + nominative of an adjective (attribute:purusis jungiamasis audinys – textus connectivus luxusZAKJ9

Type 2. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of a pronominal participle (attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective(attribute) + genetive of an adjective + nominative of an adjective(attribute: skaidulinis jungiamasis audinys – textus connectivus fibrosus 10ZAKJ;išorinė klausomoji anga – porus acusticus externusZAKJ25; vidinė klausomoji anga – porus acusticus internusZAKJ25; išorinė klausomoji landa – porus acusticus externusZAKJ66

Type 3. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of a pronominal participle (attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective(attribute) + nominative of an adjective + nominative of a comparative(atribute):
užpakalinė paverstoji atauga – processusclinoideus posteriorZAKJ65

Type 4. Nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective(attribute) + nominative of an adjective + nominative of an adjective(attribute):
sąnarinis riešo paviršius – faciesarticularis carpalisZAKJ20; vidinis pakauškaulio kyšulys – protuberantia occipitalis internaZAKJ24; viršutinė sprando linija – linea nuchae superior24ZAKJ; išorinis pakauškaulio kyšulys – protuberantiaoccipitalis externaZAKJ24; šalutinis alkūnkaulio raištis – ligamentumcollaterale ulnareZAKJ35; šalutinis stipinkaulio raištis – ligamentum collaterale radialeZAKJ35; žiedinis stipinkaulio raištis – ligamentum anulare radiiZAKJ 35; šalutinis stipinkaulio raištis – ligamentum collaterale radialeZAKJ36; žiedinis stipinkaulio raištis – ligamentum anulare radiiZAKJ36; skersinis padikaulių raištis – ligamentum metatarsale transversumZAKJ40; slankstelinės arterijos vaga – sulcus arteriae vertebralisZAKJ43; tarpinės kryžkaulio skiauterės – cristae sacrales medialesZAKJ18; šoninės kryžkaulio skiauterės – cristae sacrales lateralesZAKJ18; šokikaulinis kulnakaulio raištis – ligamentum talocalcaneum interosseumZAKJ139

Type 5. Genetive of an adjective with the suffix inis,ė(attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≡ nominative of a noun (determinative) + genetive of a noun(attribute) + nominative of an adjective + genetive of an adjective(attribute):
skersinių ančių vaga – sulcus sinus transversiZAKJ24

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[5]Compoundterms

Type 6. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of an adjective with the suffix inis,ė(attribute) + nominative of a noun (determinative) ≡ nominative of a noun (determinative) + nominative of an adjective(attribute) + nominative of an adjective(attribute):
Skridininė pusmėnulinė įlanka – incisura trochlearis semilunarisZAKJ20; ausinis sąnarinis paviršius – facies articularis auricularisZAKJ22; šeivikaulinis sąnarinis paviršius – facies articularis fibularisZAKJ23; skiauterinės nugarinės angos – foramina sacralia dorsaliaZAKJ18

Type 7. Nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of anadjective(attribute) + nominative of a comparative(attribute):
viršutinė smilkinio linija – lineatemporalis superiorZAKJ25; apatinė sprando linija – linea nuchae inferiorZAKJ59; viršutinė sprando linija – linea nuchae superiorZAKJ59; viršutinė smilkinio linija – linea temporalis inferiorZAKJ62; apatinė smilkinio linija – linea temporalis superiorZAKJ62; viršutinės sąnarinės ataugos – processusa rticularis superiorZAKJ17; apatinė sąnarinė atauga – procesus articularis inferiorZAKJ17; viršutinė slankstelio įlanka – incisura vertebralis superiorZAKJ17; apatinė slankstelio įlanka – incisura vertebralis inferiorZAKJ17; viršutinė sąnarinė duobutė – fovea articularis superiorZAKJ17; apatinė sąnarinė duobutė – fovea articularis inferiorZAKJ17; mažoji sėdmeninė įlanka – incisura ischiadica minorZAKJ22; didžioji sėdmeninė įlanka – incisura ischiadica majorZAKJ22; apatinis sąnarinis paviršius – facies articularis inferiorZAKJ22; apatinė smilkinio linija – linea temporalis inferiorZAKJ25; apatinė nosies kriauklė – concha nasalis inferiorZAKJ26; viršutinis akiduobės plyšys – fissura orbitalis superiorZAKJ25; viršutinė sąnarinė duobutė – fovea articularis superiorZAKJ43; apatinis sąnarinis atauga – procesus articularis inferiorZAKJ44; priekinis sąnarinis paviršius – facies articularis anteriorZAKJ45; užpakalinis sąnarinis paviršius – facies articularis posteriorZAKJ45

Type 8. Genetive of a pronominal adjective(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective(attribute) + genetive of a comparative(attribute):
mažojo gumburėlio skiauterė – crista tuberculi minorisZAKJ20; didžiojo gumburėlio skiauterė – crista tuberculi majorisZAKJ20

Type 9. Genetive of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of an adjective(attribute) + genetive of an adjective(attribute):
veidinio nervo kanalas – canalis nervi facialisZAKJ25

Type 10. Genetive of a noun(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + genetive of a noun(attribute) + genetive of a noun(attribute):
šonkaulio galvos sąnarys – articulatio capitis costaeZAKJ34

Type 11. Genetive of a noun(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + nominative of an adjective(attribute) + nominative of an adjective(attribute):
vidurio kryžkaulio skiauterė – crista sacralis medianaZAKJ18

Type 12. Genetive of a noun(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + genetive of a noun(attribute) + genetive of a noun(attribute) +genetive of a noun(attribute) :
šlaunikaulio galvos duobutė – fovea capitis ossis femorisZAKJ99; šlaunikaulio galvos duobutė – fovea capitis ossis femorisZAKJ99

Type 13. Nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of a comparative(attribute) + genetive of a noun(attribute) +genetive of a noun(attribute): viršutinė gaktikaulio šaka – ramus superior ossis pubisZAKJ22; apatinė gaktikaulio šaka – ramus inferior ossis pubisZAKJ22

Type 14. Genetive of a noun(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠nominative of a noun (determinative) + genetive of a noun(attribute) + genetive of a noun(attribute) +genetive of a comparative(attribute):
pečių lanko kaulai – ossa cinguli membri superiorisZAKJ19

According to the frequency of identity or difference between the components of terms, the terms in this group are grouped as follows:

Lithuanian three-word terms	Identity/difference	Latin equivalents

Types	II subordinate component	I subordinate component	main component	≡/ ≠	main component	I subordinate component	II subordinate component		III subordinate component
Adj_{Ni} + P_{Ni} + S_N ↔ S_N + Adj_N + Adj_N **N=1**	adjective(nominative)	participle (nominative)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	adjective(nominative)		-
Adj_{Nn} + P_{Ni} +S_N ↔ S_N + Adj_N + Adj_N **N=4**	adjective(nominative)	participle (nominative)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	adjective(nominative)		-
Adj_{Nn} + P_{Ni} +S_N↔ S_N + Adj_N + Adj_{NC} **N=1**	adjective(nominative)	participle (nominative)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	comparative (nominative)		-
Adj_{Nn} + S_G + S_N ↔ S_N + Adj_N + Adj_N **N=21**	adjective(nominative)	noun(genetive)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	adjective(nominative)		-
Adj_{Gn} + S_G + S_N ↔ S_N + S_G + Adj_G **N=1**	adjective(genettive)	noun(genetive)	noun (nominative)	≡	noun (nominative)	noun(genetive)	adjective(genettive)		-
Adj_{Nn} + Adj_{Nn} + S_N ↔ S_N + Adj_N + Adj_N **N=4**	adjective(nominative)	adjective(nominative)	noun (nominative)	≡	noun (nominative)	adjective(nominative)	adjective(nominative)		-
Adj_{Nn} + S_G + S_N ↔ S_N + Adj_N + Adj_{NC} **N=27**	adjective(nominative)	noun(genetive)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	comparative(nominative)		-
Adj_{Gi} + S_G + S_N ↔ S_N + Adj_N + Adj_{GC} **N=2**	adjective(genettive)	noun(genetive)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	comparative(nominative)		-
Adj_{Gn}+ S_G + S_N ↔ S_N + S_G + Adj_G **N=1**	adjective(genettive)	noun(genetive)	noun (nominative)	≡	noun (nominative)	noun(genetive)	adjective(genettive)		-
S_G + S_G + S_N ↔ S_N + S_G + S_G **N=1**	noun(genetive)	noun(genetive)	noun (nominative)	≡	noun (nominative)	noun(genetive)	noun(genetive)		-
S_G + S_G + S_N ↔ S_N + Adj_N + Adj_N	noun(genetive)	noun(genetive)	noun (nominative)	≠	noun (nominative)	adjective(nominative)	adjective(nominative)		-

N=1									
$S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + S_G$ **N=2**	noun(genetive)	noun(genetive)	noun (nominative)	≠	noun (nominative)	noun(genetive)	noun(genetive)		noun(genetive)
$Adj_{Nn} + S_G + S_N \leftrightarrow S_N + Adj_{NC} + S_G + S_G$ **N=2**	adjective(nominative)	noun(genetive)	noun (nominative)	≠	noun (nominative)	comparative(nominative)	noun(genetive)		noun(genetive)
$S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + Adj_{GC}$ **N=1**	noun(genetive)	noun(genetive)	noun (nominative)	≠	noun (nominative)	noun(genetive)	noun(genetive)		comparative(genetive)

Table 2. Frequency of compound term components by grammatical configurations.

Latin equivalents of Lithuanian three-word terms are three-word, four-word terms. A total of 14 grammatical configurations of Lithuanian terms consisting of three components and Latin equivalents were found in the source. There are 10 grammatical configurations of identical Lithuanian three-word terms and their Latin equivalents.

Components of three-word Lithuanian terms can be divided as follows: the first secondary component is expressed by the agreed attribute in types 1,2,3,4,5,6;the agreed attribute is the second secondary component in types 1,2,3,6,7,8,9,13. Secondary components in Latin equivalents are distributed as follows: the first secondary component is the agreed attribute in types1,2,3,4,6,7,8,11 (42,85% in Latin equivalents, respectively), the second secondary componentis the agreed attribute in types 1,2,3,4,5,6,7,8,9,11 (28,57% in Latin equivalents, respectively). Lithuanian three-word terms that have their first secondary component expressed by the non-agreed attribute make up 57,14% and the ones that have their second secondary componentexpressed by the non-agreed attribute make up 35,71%.

3. LITHUANIAN FOUR-WORD TERMS AND THEIR LATIN EQUIVALENTS

It has already been mentioned that the majority of Lithuanian anatomical terms and their Latin equivalents consists of two words (respectively, 116 and 109) and three words (respectively, 69 and 72), which come in various configurations.
18 Lithuanian four-word terms and 23 Latin equivalents were found. This makes up 7,2% of the studied Lithuanian terms. This represents 9,75% of the studied Latin terms. 9 configurations of Lithuanian terms and Latin equivalents are distinguished.

The grammatical configurations of Lithuanian and Latin four-word terms by components can be grouped as follows: four-word Lithuanian terms ↔ four-word Latin equivalents, four-word Lithuanian terms ↔ three-word Latin equivalents.

Summarizing the analyzed examples, the following chart showing links between components in Lithuanian four-word terms and in their Latin equivalents can be drawn up:
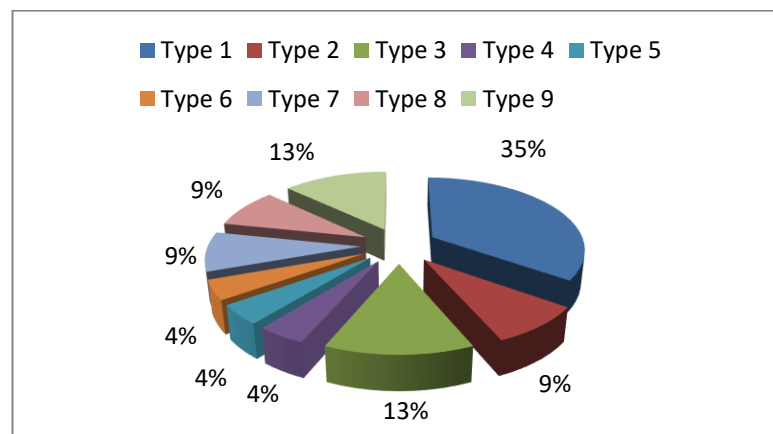
Fig. 3. Grammatical configurations of four-word anatomicalterms by frequency

Types of configurations of four-word terms:

Type 1. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective(attribute) + nominative of a comparative(attribute) + nominative of a comparative (attribute): $Adj_{Nn} + Adj_{Nn} + S_{Gs} + S_N \neq S_N + Adj_N + Adj_{NC} + Adj_{NC}$;

priekinis viršutinis klubakaulio dyglys – spina iliaca anterior superiorZAKJ21; apatinė vidinis klubakaulio dyglys– spina iliaca anterior inferiorZAKJ2; užpakalinis viršutinis klubakaulio dyglys – spina iliaca posterior superiorZAKJ95; užpakalinis apatinis klubakaulio dyglys – spina iliaca posterior inferiorZAKJ95; priekinis apatinis klubakaulio dyglys – spina iliaca anterior inferiorZAKJ131; priekinis viršutinis klubakaulio dyglys – spina iliaca anterior superiorZAKJ21.

Type 2. Nominative of an adjective with the suffix inis,ė(attribute) + genetive of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of a noun(attribute) + nominative of an adjective(attribute) + genetive of a comparative (attribute):$Adj_{Nn} + Adj_{Gn} + S_G + S_N \leftrightarrow S_N + S_G + Adj_N + Adj_{GC}$;

viršutinė strėlinio ančio vaga – sulcus sinus sagittalis superiorisZAKJ24; apatinė strėlinio ančio vaga – sulcus sinus sagittalis inferiorisZAKJ25

Type 3. Nominative of an adjective with the suffix inis,ė (attribute) + genetive of a noun (attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of a noun (attribute) + genetive of a noun (attribute) + nominative of a comparative (attribute): $Adj_{Nn} + S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + Adj_{NC}$;

priekinis šeivikaulio galvos raištis – ligamentum capitis fabulae anteriusZAKJ137; viršutinis krūtinės ląstos atvaras – apertura thoracis superiorZAKJ19; apatinis krūtinės ląstos atvaras – apertura thoracis inferiorZAKJ19.

Type 4. Nominative of an adjective with the suffix inis,ė (attribute) + genetive of a noun (attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun(determinative) + genetive of a noun (attribute) + genetive of a noun (attribute) + nominative of a comparative (attribute): $Adj_{Nn} + S_G + S_G + S_N \leftrightarrow S_N + S_G + S_G + Adj_N$;

spindulinis šonkaulio galvos raištis – ligamentumcapitiscostae radiatum34

Type 5. Genetive of anadjective (attribute) + genetive of a noun (attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of a noun (attribute) + genetive of an adjective (attribute) + genetive of a noun (attribute):$Adj_G + S_G + S_G + S_N \leftrightarrow S_N + S_G + Adj_G + S_G$;

dvigalvio žasto raumens sausgyslė – tendo musculi bicipitis brachiiZAKJ121

Type 6. Nominative of a pronominal of an adjective (attribute) + nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective (attribute) + nominative of an adjective (attribute) + nominative of an adjective (attribute):

$Adj_{Ni} + Adj_{Nn} + S_{Gs} + S_N \leftrightarrow S_N + Adj_N + Adj_N + Adj_N$;

gilieji skersiniai delnakaulių raiščiai – ligamentameta carpea transversa profundaZAKJ125

Type 7. Genetive of an adjective (attribute) + genetive of a noun(attribute) + genetive of a noun (attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of a noun (attribute) + genetive of an adjective (attribute) + genetive of a noun (attribute):$Adj_G + S_G + S_G + S_N \leftrightarrow S_N + S_G + Adj_G + S_G$:

dvigalvio šlaunies raumens sausgyslė – tendo musculi bicipitis femorisZAKJ135; dvigalvio žasto raumens sausgyslė – tendo musculi bicipatis brachiiZAKJ121

Type 8. Genetive of a noun (attribute) + genetive of a noun(attribute) + nominative of an adjective with the suffix inis,ė(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective (attribute) + genetive of a noun(attribute) + genetive of a noun (attribute):$S_G + S_G + Adj_N + S_N \leftrightarrow S_N + Adj_N + S_G + S_G$;

šonkaulio galvos sąnarinis paviršius – facies articularis capitis costaeZAKJ116; šonkaulio gumburėlio sąnarinis paviršius – facies articularis tuberculi costaeZAKJ53

Type 9. Nominative of an adjective with the suffix inis,ė(attribute) + nominative of an adjective with the suffix inis,ė(attribute) + genetive of a noun(attribute) + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + nominative of an adjective (combined) (attribute) + nominative of an adjective(attribute):$Adj_{Nn} + Adj_{Nn} + S_G + S_N \leftrightarrow S_N + Adj_{Ns} + Adj_N$

priekinis krūtinkaulinis raktikaulio raištis – ligamentum sterno claviculare anteriusZAKJ118; tolimasis stipinkaulinis alkūnkaulio sąnarys – articulatio radiculnaris distalisZAKJ127

First secondary components of Lithuanian four-word terms are non-agreed attributes in eight grammatical configurations, which accounts for88,89% of all configurations. Second secondary components are non-agreed attributes in 5 configurations, third secondary components expressed by non-agreed attributes occur in only one configuration. First secondary components in Latin equivalents are non-agreed attributes occurring in five configurations; second secondary components are non-agreed attributes occurring in only three configurations, third secondary components are non-agreedattributes occuring also in three configurations.

According to the frequency of configurations, it can be stated that term pairs of type 5 are most productive. There are fewer pairs of terms of types 3and 9: 13% ineach.

4. LITHUANIAN FIVE-WORD TERMS AND THEIR LATIN EQUIVALENTS

Only 1 pair of Lithuanian five-word terms and their Latin five-word equivalents was found.
Genetive of an adjective (attribute) + genetive of anoun(attribute) + genetive of a participle (attribute) + genetive of a noun + nominative of a noun (determinative) ≠ nominative of a noun (determinative) + genetive of a noun (attribute) + genetive of an adjective (attribute) + genetive of a noun (attribute) +genetive of an adjective (attribute):
$Adj_G + S_G + P_G + S_G + S_N \leftrightarrow S_N + S_G + Adj_G + S_G + Adj_G$;
paviršinio pirštų lenkiamojo raumens sausgyslė – tendo musculi flexoris digitorum superficialisZAKJ125.

Conclusions

Over the centuries, the development of medical terminology has been based on the process of creating parallel national and international terms, known all over the world and well-defined. In the field of medical, biological and pharmaceutical sciences, such a reliable tool of communication was Latin and Greek. Latin enables us to precisely define and differentiate between concepts. The benefits flowing from knowledge of Latin are so significant that it seems impossible to imagine a physician, pharmacist or physiotherapist without even elementary knowledge of this language. Most terms used in biology and medicine are derived from classical languages;i.e.,Latin and Greek. It may be concluded that the modern language of medicine basically represents the ancient Greek language transcribed into Latin (Jóskowska, Grabarczyk, 2013).

Lithuanian one-word anatomical terms make up only a small part of anatomical terms. They refer to the concepts of the main parts and organs of the human body. In terms of origin, Lithuanian one-word anatomical terms found in the source have formed on the lexicon of their own language, while 90% of Latin one-word anatomical terms are composed on the basis of Latin.

Lithuanian and Latin two-word and three-word anatomical terms are used quite often: 116 Lithuanian two-word and three-word terms and 109 Latin ones were found in the source. This accounts for 42,96% of the sample of Lithuanian terms and 40,37% of the sample of Latin terms. Two-thirds of Lithuanian two-word terms and almost two-thirds of Latin two-word terms consist of terms linked by the syntactic relations of the agreed attribute. The majority of Lithuanian two-word terms are built by *the nominative of adjective with suffixes -inis, -inė + the nominative of noun*; while of Latin ones, by *the nominative of noun + the nominative of adjective*. In Lithuanian anatomical terms, the species atribute usually precedes the determinative. Latin compound terms are characterised by the inverted order of components in compound terms. The material studied has shown that Lithuanian and Latin two-word terms with participles, numerals and pronouns as components are notabundant. Secondary components of more than a third of Lithuanian and Latin three-word terms are agreed attributes; of a fifth, the agreed and non-agreed attribute. The majority of Lithuanian four-word terms, 18 of which were found in the sources, and Latin four-word terms, 23 of which were found in the sources, has different grammatical configurations. One pai rof Lithuanian five-word terms and their Latin equivalents has been found.

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