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SHORTENED FORMS IN MEDICAL TRANSLATION. A COMPARATIVE ANALYSIS OF THE CASE REPORT SECTION OF A POLISH/ENGLISH JOURNAL FOR VASCULAR SPECIALISTS

The article examines the different ways in which various types of shortened forms are employed in Polish-English translation of a corpus of medical articles found in the Case Report section of *Acta Angiologica*, a bilingual quarterly for vascular specialists. A comparative analysis of the source and target texts is conducted to determine the reasons for the use and non-use of abridged forms in medical translation. On the one hand, attention is devoted to how the source text abbreviations are handled in translation. On the other hand, the focus is on those cases in which an abbreviated form is used in the target text regardless of its absence in the source language version.

1. Introduction

Reading a text, no matter the discipline, one often comes across various shortened forms such as *NATO* or *Prof*. If they are immediately recognizable like the ones mentioned, they are also easily comprehensible, and thus, choosing their correct equivalents in the target language is not a challenge for a translator. Problems may arise when an attempt is made to determine the meaning of certain confusing items like *AI*, which happen to function as shortened names of different phenomena. Unfortunately, given the accelerated progress of scientific development observed in recent years, dictionaries do not always prove useful. Of course, contextual information usually helps to decide whether it is *Amnesty International* or *Artificial Intelligence* that is meant in a given sentence. Yet, what still remains unsolved is whether to render this meaning by means of an abbreviation, and if so, whether to use the one which is a shortening of the source or target language full form. Alternatively, reasonable may also prove to employ only the extension of a given abbreviation in the target text because, for instance, the abridged form itself is unpopular among target language users.

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Such issues need to be carefully considered also by translators of medical texts which, for obvious reasons, should not be ambiguous when translated. Indeed, medical writing has devised numerous means to abridge sentences in pursuit of the maxim 'much information, little space', from among which probably the most common one is the widespread use of shortened forms. A proliferation of such items is also observed in the genre of the medical case report which has been selected for investigation in the present study. The discourse form in question is often neglected as a source of valuable data on medicine and health care. This is probably due to the fact that the scientific evidence it provides is considered as relatively weak, because attention is largely devoted to a single patient's diagnosis and treatment plan. Yet, notwithstanding certain shortcomings, the medical case report still constitutes the "cornerstone of medical literature", as Vandenbroucke (1999: 159) presents it, since its content should above all either contribute new or add value to current knowledge. Given also its compact nature, the case report is actually a unique specimen of medical discourse, especially in terms of its pedagogic and scientific qualities.

What of course contributes to the conciseness of medical case reports are the numerous abridged forms used in reference to the reported medical, or even non-medical, issues. Dealing with such items in reading is already a challenge, particularly to a non-expert, since even within one specialty a given shortened form may have a number of extensions. Yet, handling them in translation is much harder, especially in view of the fact that some abbreviations are not commonly used by the medical profession as a whole, but rather author-specific, created on the spur of the moment. As a matter of fact, research into medical translation appears to be of little help to translators since, according to Montalt (2011: 81-82), it has not received enough attention, especially with regard to problems other than terminological equivalence. And even though some progress in this field has been made in recent years, particularly in such aspects as the history and teaching of medical translation, it seems that the matter of medical abbreviations has not been sufficiently resolved.

In an attempt to address this apparently overlooked and yet urgent problem of medical translation, the present paper focuses on examining how translators actually cope with the task of translating shortened forms. In particular, an attempt is made at determining the reasons for the use and non-use of abbreviations when translating medical texts. The examples of abridged forms analysed here have been obtained from a corpus of authentic case reports that appeared in the medical journal *Acta Angiologica* in the years 2002-2011. In the course of the study, relevant fragments of Polish source texts are compared with their English translations, which is driven by a two-fold aim. First, an answer is sought to the question what approach has been adopted by translators to deal with the source text abbreviations. Second, attention is devoted to those cases in which an abbreviation appears in the target text to render unabridged source text fragments.

2. An insight into medical translation

Medicine as a field of study related to the art of healing has always been considered important since it concentrates on the physical and mental condition of human beings. This special position of health care sciences is particularly evident nowadays in the era of fast scientific and technological advances which contribute to an even more intense production of health-related publications. As Crowson (2013: 554) aptly remarks, medical writing is not only "the vehicle of medical knowledge that transports our innovations and observations through time", but also "a key component of career advancement in medicine". However, because new methods of diagnosis or treatment are developed in different corners of the world, there arises the need to share medical knowledge not only with health professionals speaking the very same language, but also with practitioners from abroad.

The demand for unrestricted access to the most recent advances in medicine seems to be met largely owing to the fact that humankind has devised ways in which even specialist meaning expressed in one language can be effectively conveyed in another language. Indeed, Fischbach (1986: 16) claims that medical translation is "the most universal and oldest field of scientific translation" and adds that the main reason for this is "the homogeneous ubiquity of the human body (the same in Montreal, Mombasa and Manila) and the venerable history of medicine". The universality of the main subject matter of medical communication often serves as a convincing argument for the belief that medical translators face an easier task than their colleagues who deal with other types of scientific texts. Apparently, the transfer of meaning is also assisted by a considerable degree of terminological uniformity, since many of the medical terms enjoy international recognition owing to their Latin-Greek roots (Pilegaard 1997: 160). Yet another factor that is likely to facilitate medical translation consists in the ease with which translators can access various types of reference materials, including the literature of the field as well as information obtained directly from the doctors.

Notwithstanding an element of truth in the above mentioned convictions about cross-linguistic transfer of medical information, the translator working in this field really needs to possess specialized knowledge of medicine and its discourse conventions as well as of the translation process and its tools. Following Keresztes (2013: 538), in an attempt "to translate accurately each term and meaning, and then avoid any negative consequences for the patient or medical personnel", "a medical document should only be translated by someone who is completely familiar with the subject". However, mere familiarity with the intricacies of medicine as well as with the specialized vocabulary used by medical professionals is not enough. Moreover, even if one is highly competent in language for both general and specific purposes of the source as well as target text, the task becomes only slightly less complicated.

Equally important is to be acquainted with the basics of medical communication not only in oral but also in written contexts. This consists, among other

things, in developing a proper understanding of the typical features of relevant genres of medical writing in order to properly assess the nature and purpose of both the source and target text and, in consequence, make the right selection of translation strategies (Hervey and Higgins 2002: 57-58). Such knowledge involves, for instance, awareness of whether the use of abbreviations is more characteristic of professional or educational medical genres. It also enables the translator to use the right discourse strategies so as to produce target texts that are structured in accordance with appropriate generic conventions for particular medical documents. Obviously, gaining an insight into how medical professionals communicate with their patients and with one another is equally essential in the case of source as well as target language and cultural tradition. Such a view is also held by Amant (2013: 4), who argues that "translation is not about converting words from one language to another; rather, it is about effectively conveying meaning from one language and cultural system to another".

Last but not least, a competent medical translator should also be familiar with the main translation theories, especially the ones relevant to scientific texts, and should generally demonstrate considerable proficiency in the use of translation techniques. This, as Lee-Jahnke (2005: 81) suggests, means for instance knowledge of the *skopos* theory of Reiss and Vermeer, according to which the function of the target text as well as the needs, expectations, situational conditions and previous knowledge of its receivers should be the fundamental concern of the translator. Therefore, if a given medical document is meant to serve its function, as expected in the target language environment, one may feel free to decide how to achieve this. Generally speaking, those involved in converting medical texts from one language into another need to know that translational problems may be solved not only by the extensive use of reference materials dealing with the language of medicine, such as dictionaries or terminological glossaries. Worthy of attention are also comparative analyses of parallel texts similar to the one performed in the preset study, where "a collection of original texts in L1 (source language) and their translations into (…) L2 (target language)" is carried out to see how various problems encountered in medical translation have already been resolved in authentic texts (Gómez-Castejón 2012: 114).

3. The genre of the medical case report

The language of medicine has been eagerly studied by scholars representing a wide range of scientific disciplines, some of which are concerned with different aspects of medical communication itself, whereas others conduct more general research on discourse analysis and text linguistics. Still, even though "each discipline has investigated the medical language from different angles and perspectives", "the overall purpose of the different research orientations has been to describe the genres representing the language of medicine and to analyze what

typical characteristics they contain" (Helán 2012: 7). Apart from the apparently universal distinction between oral and written forms of medical language, there have been also proposed other typologies of the text-types or genres used to convey medical information.

Worthy of attention seems to be a summary of research on medical discourse provided by Montalt (2011: 81). Briefly speaking, in an attempt to solve the intricate maze of the genres representing the language of medicine, there has been developed a model of categorization which classifies medical genres into four categories distinguished on the basis of their social function. In particular, there is the category of professional genres that are used on a daily basis by medical professionals in their work (e.g. clinical guidelines). Added to that are educational genres that serve the role of teaching tools in various contexts (e.g. patient information leaflets). There are also commercial genres utilized in buying and selling medicine-related services or products (e.g. drug advertisements). Finally, Montalt (ibid.) mentions research genres that are used by scholars "to communicate their findings and arguments". This is actually the category to which the medical case report is typically assigned.

According to Cianflone (2011: 3), the medical case report "is a scientific genre used by medical practitioners to describe unusual cases worth reporting because of their atypicalness". So far, this form of medical writing has not been a particularly popular object of attention among researchers involved in the field of medical communication. Among those more interesting contributions, which look at the topic from a variety of perspectives, worth mentioning are possibly the following: Vandenbroucke's (1999) argumentation for the indispensability of the case report for the progress of medical science, Taavitsainen and Pahta's (2000) historical perspective of the genre, Mason's (2001) anxious editorial about the future of the traditional case report, Warner's (2005) discussion of the value of case reports to scientific journals, Kidd and Hubbard's (2007) description of a journal solely devoted to the presentation of medical case reports as well as a more recent corpus-based analysis of the genre by Helán (2012).

What follows from the literature on medical case reports is that they generally take the form of a detailed description of some unusual pathological condition in a patient, encompassing a recount of the whole course of the disease, from the first symptoms to the final outcome and including also the follow-up of a given individual. Murawska (2012: 117) draws attention to the novelty value of these scholarly papers, claiming that they are first and foremost meant to "present new diseases or diseases that are already known but which have unusual manifestations". Unfortunately, even though case reports are "probably the oldest form of medical communication" which "allows formal sharing of experiences and knowledge in the practice of medicine", they are held in low esteem by many journals' editors for whom such publications are nothing more but anecdotal findings (Peh and Ng 2010: 10). Yet, they continue to be written and they continue to find readers, which is partly owing to the contribution they make to medical education, and partly to what Lennon and Fenton (2011: 529)

define as these publications' potential for raising "suspicions with ignition of new avenues of research".

With regard to the fundamental characteristics of the genre, according to most scholars (see for instance Abu Kasim et al. 2009; Peh and Ng 2010; Juyal et al. 2013), its formal structure typically comprises a title followed by the authors' names and affiliations, a short abstract sometimes accompanied by a list of key words, a brief introduction, a succinct yet comprehensive presentation of the case, the discussion section and conclusions, sometimes followed by acknowledgements, and references. Additionally, Helán (2012: 88-94) mentions also a few other sections that at times may appear after the concluding part, namely, patient's perspective, list of abbreviations, consent of the patient, and authors' contributions. The text itself is usually illustrated with a limited number of figures, charts and tables which are meant to clarify the case description.

As for other distinguishing features of the medical case report, Peh and Ng (2010: 12) point out the need for arranging particular details in accordance with chronology, the importance of providing background information about the patient as well as the significance of clarity, factuality and honesty when reporting the case. Indeed, case reports are to serve both students and medical practitioners as valuable sources of new and insightful information which is largely concerned with evidence-based medical practice and thus enriches the knowledge and skills necessary for taking even better care of patients. Hence, as Helán (2012: 60) maintains, the language of such texts is both informative and persuasive, and elaborates further on this observation in the following words:

> It is generally accepted that the main communicative function of MCRs is to impart factual information about medical cases both with the aim of contributing to the progress of medical science and of serving pedagogic purposes (…). The persuasive function is connected mainly to the advancement of medical science and can be predominantly noticed in the introduction, discussion and/ or conclusion sections of MCRs. Therefore, argumentative and persuasive rhetorical devices tend to be used to make a point or to increase the potential publishability of the case report, using lexis such as *novel, new, unusual, rare,* or *previously unreported*.

Last but not least, Cohen (2006: 1888) argues that the discussed form of medical writing "can describe a single case report or a series of case reports" and adds that typical texts of the genre are "generally 1500-2500 words in length with 20-30 references". As a matter of fact, the brevity of case reports is often referred to in the literature on medical writing (see for instance Abu Kasim et al. 2009; Peh and Ng 2010; Cianflone 2011; Yuyal 2013). Among the factors that help to report medical cases in a succinct way worth mentioning is the fact that such accounts tend to be more like single-thread narratives based on facts than like typical research papers, which often lack in comprehensibility probably due to the increased presence of abstractions, statistics and generalizations.

Additionally, striving to make their contributions short and concise, the authors of case reports also resort to the use of abbreviations, even though such items are believed to "cloud meaning and introduce errors" as well as to "annoy readers and cause eyes to glaze over" (Taylor 2011: 126). Although frequently criticized, various types of abridged forms enjoy wide recognition within the community of medical professionals, which actually imposes on the translator the need for proper identification, understanding and handling of such items in translation.

4. The problem of shortened forms in medical language

Medical communication, irrespective of the reasonable requirement of being transparent and straightforward, makes extensive use of shortened forms which, due to their often ambiguous and transient nature, pose a major problem for all those translating in the field of medicine. There are several different reasons behind this phenomenon. Dirckx (1983: 108, 109), for instance, aptly remarks that "there seems to be a universal tendency for people of all races and languages to abridge their utterances, when possible, by shortening or omitting words", and adds that "the physician, in his sometimes frantic and usually futile efforts to conserve time, has recourse to many abbreviations in speech and writing". Equally plausible appears to be the view that medical texts are yet another example of technical or scientific material, which is generally characterized by the desire to provide a great deal of information in a concise and condensed way (Hernández de la Rosa and Moreno-Martínez 2012: 148-149).

By comparison, Kasprowicz (2010) argues that the popularity of shortened forms in the language of medicine stems not only from the need to save space and time, which is often of utmost importance in emergency situations where human health or even life is endangered. Additionally, abridging proves useful when medical professionals want to make the actual content of their texts inaccessible to the outsiders or sometimes even to the patient who, for some reason, should remain unaware of their health condition. Worth mentioning is also the view that the translation of shortened forms is conditioned not only by certain linguistic factors, but also by those related to culture. Indeed, Ynfiesta et al. (2013: 93-94) claim that such items "are not only linguistic forms, but they are also objective phenomena within scientific culture and they are cultural referents" employed to name diverse medical concepts and phenomena. This in turn often imposes on the translator the need to use reference materials that go beyond the limits of language precision and allow outside expertise provided by, for instance, medical professionals or others with appropriate qualifications.

Irrespective of the reasons for which shortened forms are so eagerly used in medical texts, they are likely to cause translators sleepless nights. Even the very attempt at defining the concept of abbreviated form seems problematic, as there is little consensus on the distinction between particular types of shortenings of words and phrases. For example, Quirk et al. (1985: 1581-1584) argue that

abbreviations are shortened forms of various lexical items which come in three main types, namely clippings (e.g. *memo*), acronyms (e.g. *UFO*) and blends (e.g. *smog*). By comparison, Crystal (1999: 1) believes that an abbreviation is a reduced version of a word, phrase or sentence, and that its different types are acronyms (e.g. *ECC*), blends (e.g. *brunch*) and shortened forms (e.g. *ad*). Alternatively, Kasprowicz (2010) notes that in common parlance the term abbreviation serves as a synonym for shortened form, by which the majority usually understand "everything that is a shorter form of something else", including contractions (e.g. *I'm*), initialisms (e.g. *NHS*), acronyms (e.g. *SARS*), truncations (e.g. *Dec*) syllabic abbreviations (e.g. *Interpol*) or Latin abbreviations (e.g. *t.q.i.d.*).

Probably the most transparent approach to the matter in question would be to assume that an abbreviation is any shortened form of a word or phrase, created either by omitting certain portions from the interior or by cutting off a part, which is used to represent the whole. Generally, the name loosely applies to all reduced versions of words or phrases, some of which are "formed by taking initial letters of multi-word sequences", as in *FAQ* for *frequently asked question*, or by incorporating non-initial letters as well, as in *Inc.* for *Incorporated* (Mirabela and Ariana 2009: 557). Taking into consideration the former part of the above definition, it seems that the name may also be treated as a generic term for two other notions that remain in the focus of attention in the present study. This is actually in line with the nomenclature adopted by numerous scholars, among others by Bloom (2000), Mirabela and Ariana (2009) or Ynfiesta et al. (2013). One notion is the acronym, which is a lexical entity formed from the initial parts, usually letters, of several words that together make up a name. It is often capitalized and pronounced as a single unit, for example, *NATO* for *North Atlantic Treaty Organization*. The other is the initialism, which is similar to the acronym with regard to the way in which it is formed, yet it is typically pronounced as a sequence of letters, for example, *BBC* for *British Broadcasting Corporation*.

The tendency to abbreviate medical communication is especially marked nowadays when every single day names are given to new equipment or technologies, to new tests, therapies, drugs, diseases or even institutional programs that are developed in the field of health care. As a matter of fact, it is so strong that, according to Shultz (2006: 411), "it is now rather unusual when a medical condition or procedure does not come with an associated acronym or initialism". Still, such items are likely to obscure meaning, especially if they happen to be author-specific neologisms, have been coined for the sake of one specific text, have a number of different meanings even within one specialty, have no equivalents in the target language, are not accompanied by any full form or explanation. As a result, those whom the text is addressed to get confused and disoriented, which may cause detrimental effects to the patient. For instance, Isaacs (2009: 241) reports on an audit of 25 hand-over sheets which was carried out in one of British hospitals. The results revealed that from among 221 abbreviations that were used in the documents a total of 2286 times, only 56-94% were recognized by doctors and even less, that is, only 31-63% by other health care professionals.

When faced with such obstacles, medical translators have at their disposal certain methods which may help to reformulate successfully the source language abbreviations in the target language. Worth remembering is, for example, to follow the fundamental rules of good medical writing, among which an important one says to "avoid jargon, be accurate in what we say, and be careful with abbreviations and acronyms" (Taylor 2005: 105). Still, if an abbreviation cannot be avoided, it should be fully identified the first time it occurs in the text. In particular, the component words of a given abridged form should be spelled out in full and then followed by the abbreviation in parentheses. Among the scholars who suggest such an approach to the problem of translating shortened forms are, among others, Kasprowicz (2010), Taylor (2011), Hernández de la Rosa and Moreno-Martínez (2012), Amant (2013). Many of them also add that if a subsequent reference appears in proximity, then it is enough to use the shortened form itself, especially if the immediate context does not abound in other abbreviations. However, if the next usage is farther away, it is better to repeat the combination of the spelled-out reference with the abbreviation in parentheses so as not to impose on the reader the need to consult a previous fragment of the text in search of explanation.

Furthermore, some of the above mentioned researchers advise not to use abbreviations in the title and abstract as well as recommend not to use more than one such item in a sentence or even not to begin a sentence with a shortened form, particularly if it has not been previously defined (see for instance Taylor 2011: 126). Additionally, Kasprowicz (2010) claims that it is often useful to precede an abbreviation "with its head word which can either be an element included in the acronym itself (e.g. *zespół SIDS …*), its hypernym (e.g. *substancja LSD …*), or hyponym (e.g. *limfokina HRF*)". Equally important is to remember that certain abbreviations used by the medical profession are quite universal in their nature since they function as internationally recognized labels. According to Kasprowicz (ibid.), on the one hand, there are the shortened forms which have been originally borrowed and adopted from English, such as *AIDS* or *SARS*. Even though some of them have their full names in various languages, the English abbreviation is typically left in translation and accompanied by its expansion in the original, whereas the term is sometimes introduced in a full target language form. On the other hand, there are the abbreviations of Latin origin, which should be left intact as well. However, if a given abbreviation has its abridged equivalent in the target language, which is commonly used by the target discourse community, then the source text abbreviation should be changed into the target text one.

Overall, it certainly seems advisable to translate abbreviations in a way that ensures a high level of interlinguistic standardization. Indeed, if a text is to be understood by an average medical professional anywhere on the globe, it "should be free of local or national circumstances or references to local populations and statistics, unless they are relevant to the expected readers" (Andriesen 2006: 158). This, unfortunately, is not so easy to achieve, especially if the translator has to deal with very uncommon or novel shortened forms. Therefore, to give

an insight into how translators can possibly deal with the problems signalled in the foregoing few sections, the present study has been designed to determine the diverse ways in which various abbreviated forms were actually transferred from Polish into English in the process of medical translation. Additionally, an answer is also sought to the question in what circumstances medical translators decide to employ a shortened form to render a fragment of text which has not been originally abridged. For the purposes of this examination, no distinction is made between the different types of abridged forms considered further in the study. Thus, in the discussion that follows all such items are collectively referred to as abbreviations, which is used interchangeably with such terms as abbreviated, abridged or shortened forms.

5. Data collection and analysis

The material on which this analysis is based comes from a corpus of medical articles that were published in the Case Report section of *Acta Angiologica* in the years 2002-2011. The journal is a bilingual (Polish/English) quarterly for angiologists and vascular surgeons which is published by Via Medica Publishing House and indexed in Index Copernicus Journal Master List as well as in the biomedical database EMBASE. Since 2012 it has also been awarded seven excellence points (List B) by the Polish Ministry of Education. The articles can be downloaded from the official website of the journal free of charge. Altogether there were collected 37 articles that is all bilingual case reports that were published in the mentioned years, excluding the year 2004 when the journal did not have this section as well as number 4 of 2007 in which no abbreviated forms were found.

All the texts included in the corpus have been written by Polish authors and their length ranges from 4 up to even 12 pages. To ensure that the English versions are in fact translations from Polish, I contacted a representative of the editorial team. According to that person, until 2012 when the editorial policy underwent some major changes, the editor typically received an article in Polish which was then translated by a trusted translator. Sometimes the authors sent both language versions which they had either translated themselves or commissioned to a professional translator. If there were large discrepancies between the two language versions, then the editorial team rewrote the English text so as to make it exactly the same as the original. Yet, no matter which option the authors chose, the editorial policy was to always have every English text proofread by a native speaker.

As for the method, a comparative analysis of source and target texts was conducted to determine whether abbreviations were subject to abridgement processes in translation or whether they were rendered by means of equivalent full forms, or whether the translators employed other procedures to successfully transfer meaning. Additionally, attention was also devoted to those cases in which some part of the Polish text, not expressed by means of an abridged form,

was nevertheless shortened in translation. The corpus was manually examined to identify all possible shortened forms that were used both in the source and target text in the following sections of each article: the abstract, key words, main text, including tables, as well as captions accompanying different forms of graphic representation of data. Generally, only standard units of measurement, such as *ml* standing for *millilitre* or *min.* standing for *minute*, were not included in the data.

6. Initial results

To obtain an overall picture of the corpus content in terms of the number of abbreviations, the first step was the presence/absence analysis which, as shown in Table 1, revealed the total of 1453 investigated items. The quantitative analysis also showed that the number of abbreviated forms employed in the English texts (856 items) was by around 30% larger than in the Polish ones (597 items). As Amant (2013: 3) argues, this may be due to the fact that there is a tendency in English medical writing to "spell out the component terms of each abbreviation upon initial use" and then employ simply the short form. Alternatively, guidelines for the writers of medical case reports suggest to keep them "short and focused, with a limited number of figures and references", which makes the process of abridgement very useful (Peh and Ng 2010: 10).

Subsequently, the collected data were initially categorized, taking into consideration two factors. First, the source text perspective was adopted, where the focus was on 597 cases in which an abbreviated form was used in the Polish version to discover that the number of shortened forms in equivalent English fragments was smaller, as it amounted to 495. Second, the target text perspective was adopted, where the focus was on 361 cases in which an abbreviated form was employed in the English text to render meaning that was originally expressed by means other than the abridged forms. Such a two-way approach made it possible, on the one hand, to analyze the different ways in which short forms might be translated into English. On the other hand, it allowed to address the question when it might be advisable for the translator to use an abbreviation despite its absence in the source text. Table 1 provides an overview of the obtained results.

Table 1: Distribution of abbreviated forms in the corpus

Adopted perspective	Number and percentage of abbreviated forms					
	ST: Polish		TT: English		Total	
	No.	%	No.	%	No.	%
Source Text perspective	597	41.09	495	34.07	1092	75.16
Target Text perspective	--	--	361	24.84	361	24.84
Whole corpus	597	41.09	856	58.91	1453	100.0

The final comment concerns the writing conventions adopted in the analysed examples. In particular, since the main focus is on abbreviations, in most cases there was no need to quote whole sentences containing such items. Hence, there is typically provided the immediate context directly relevant to the correct interpretation of a given abridged form, both in the source and target text. Additionally, many of the discussed examples are supplemented with explanatory information in square brackets, which is meant to clarify the meaning of the examined abbreviations. Basically, if before an arrow, there is the target text abridged form followed by its English extension, then after the arrow, there is the source text full name equivalent, followed by its shortening from Polish words, if there exists one. Depending on the nature of a given example, this order might also be reversed, and then first the Polish version is introduced. Where irrelevant, some of these elements are omitted. Finally, all source text fragments are marked as ST and their target text equivalents as TT.

7. Main results and discussion

In the discussion that follows, there are demonstrated various examples of how shortened forms are utilized in Polish-English translation of medical case reports. First, the source text perspective is adopted to see how source text abbreviations were handled in translation into English. Subsequently, the target text perspective is adopted to focus on those contextual situations in which shortened forms were employed in the target text to render fragments that had been written in full in the original.

7.1. Source text perspective

Adopting the source text perspective, where the focus is on possible English translations of the total of 597 Polish abbreviated forms, there have been distinguished two main types of examples. The more popular Type One comprises 471 cases in which in the Polish text there appeared an abbreviated form alone whereas Type Two comprises 126 cases in which an abbreviated form was accompanied by its extension.

7.1.1. Type One examples within source text perspective

As can be seen from Table 2, there have been identified five procedures applied in translating Type One examples.

Table 2: Procedures applied in translating Type One examples within source text perspective

		Source Text fragment		Target Text fragment	
		Realization in Polish	No. of ST abb.	Realization in English	No. of TT abb.
Procedure	1A	abbreviated form	365	abbreviated form	366
	1B	abbreviated form	54	full form	--
	1C	abbreviated form	22	abbreviated form omitted	--
	1D	abbreviated form	16	full form + abbreviated form	16
	1E	abbreviated form	14	abb. form omitted – another word	--
Total		471 abbreviated forms		382 abbreviated forms	

In a substantial majority of cases a shortened form was translated by means of an equivalent target text abridged form (Procedure 1A). However, no corresponding full form was provided, even though "within the text, the general *modus operandi* for translators is to define" an abbreviation, especially upon initial use (Kasprowicz 2010). This approach to source text abbreviations is illustrated by examples (1) and (2):

(1) ST: *W rozpoznaniu <u>IMH</u> dominują okrężne lub półksiężycowate zgrubienia…*
     TT: *The diagnostic criteria for <u>IMH</u> consist of: circular or crescent-shaped thickness...*
     [IMH = intramural haematoma → krwiak śródścienny aorty]
(2) ST: *Dotychczas nie ustalono optymalnego postępowania u chorych z <u>PAU</u>.*
     TT: *So far, the optimal therapeutic regimen for patients with <u>PAU</u> has yet to be established.*
     [PAU = penetrating atherosclerotic ulcer → penetrujące owrzodzenie aorty]

Worth noting is the fact that because *Acta Angiologica* is a bilingual journal meant for specialists from different countries, it is often the case that many of the abbreviations used in the Polish text have been originally adopted from English and thus in translation they in fact remain the same. Sometimes, just like in the above, a given disease has its full name in Polish, but the only abridged form used to refer to it is the one adopted from English.

However, there are also cases in which a given medical term has both its full and short form in Polish, but for the purposes of interlinguistic standardization, in writing it typically adopts the English abbreviated form. This can be illustrated by the following fragments:

(3) ST: *Proces zapalny w <u>GCA</u>…*
     TT: *Inflammatory process in <u>GCA</u>...*
     [GCA = giant cell arteritis → olbrzymiokomórkowe zapalenie tętnic = OZT]

(4) ST: *Wykonano <u>CT</u> jamy brzusznej…*
     TT: *The <u>CT</u> was performed...*
     [CT = Computed Tomography → tomografia komputerowa = TK]

In example (3) the English abbreviation *GCA*, which stands for 'giant cell arteritis', has its abridged equivalent in Polish, *OZT*, which is a shortening of the Polish name of the disease: 'olbrzymiokomórkowe zapalenie tętnic'. Yet, in Polish medical writing, especially if it is aimed at international audience, the preferred shortened form is the one borrowed from English. A similar situation is observed in example (4), where the English abbreviation *CT* has been originally used in the source text to refer to a particular type of examination, even though in Polish it is sometimes referred to as TK, which is a shortening from Polish words.

Of course, when translating into English fragments similar to the ones presented above, translators do not actually face any problems, as the only reasonable solution is to leave the abbreviated form intact in translation. Indeed, such an approach to the use of shortened forms in medical texts seems to be in line with Bloom's (2000: 4) advice, according to which in order to avoid overuse of abbreviations in technical writing, it is wise to employ items that "have utility beyond a single paper". Still, it is important for the translator to think twice before they decide not to change a given shortened form in translation, and especially to take note of potential readers of the text. This is even more the case if items similar to (3) and (4) are considered. As a matter of fact, if they were to be translated into Polish, then it might prove advisable to quit the universal abbreviation of English origin, and use instead the form which is a shortening from Polish words, particularly if it is widespread in Polish medical discourse.

By comparison, sometimes the source text abridged forms were changed in translation. This was usually observed in the case of those abbreviations which were shortenings from Polish words. In Polish medical discourse, the names of certain phenomena do not function under any borrowed terms, and then only shortenings of Polish origin sound natural and are thus practically always being used. However, in translation they should be rendered by their abbreviated target language equivalents, which is illustrated by examples (5) and (6):

(5) ST: *Częstość tych powikłań w ośrodkach z dużym doświadczeniem w wykonywaniu tego typu procedur jest niewielka (przypadek <u>nr</u> 1).*
     TT: *In the reference centre, the complication rate is very low (Case <u>no.</u> 1).*
     [nr = numer → no. = number]
(6) ST: *Chociaż w 5% przypadków <u>OB</u> na początku choroby jest niższe niż 50 mm/h…*
     TT: *Although in 5% of GCA cases initial <u>ESR</u> is lower then 50 mm/h...*
     [OB = odczyn/opad Biernackiego → ESR = erythrocyte sedimentation rate]

The second procedure (Procedure 2A) applied in translating Type One examples, but far less common than the previous one, consisted in replacing a source text abbreviation with an equivalent full form in English, as in example (7):

(7) ST: *W praktyce klinicznej rozpoznanie <u>HIT</u> powinno być potwierdzone…*
TT: *In clinical practice the diagnosis of <u>heparin-induced thrombocytopenia</u> should be confirmed...*
[HIT = heparin-induced thrombocytopenia → małopłytkowość poheparynowa]

There seems to exist no reasonable explanation behind the use of this procedure to render names of disease entities, especially that referring to such phenomena by means of their full names makes the text longer. This in turn can be treated as a violation of "submission requirements of case reports" which "generally limit the length" of such texts so that the final version is brief and concise (Abu Kasim et al. 2009: 2).

Nevertheless, the translator's decision to omit a given abbreviated form in the target text and instead use its full form in English becomes clearly justified in those cases in which the source text abbreviation is employed in reference to local or national circumstances which are unfamiliar to the expected readers. This is illustrated by examples (8) and (9) below, where mention is made of Polish medical centres, whose names, especially in their abbreviated form, are possibly not known to the target language readership.

(8) ST: *Kliniki Chirurgii Ogólnej, Onkologicznej i Naczyniowej <u>WIM</u> w Warszawie…*
TT: *Department of General, Oncological and Vascular Surgery of the <u>Military Institute of Health Service</u> in Warsaw...*
[WIM = Wojskowy Instytut Medyczny]

(9) ST: *Kliniki Angiologii, Nadciśnienia Tętniczego i Diabetologii <u>AM</u> we Wrocławiu...*
TT: *Department of Angiology, Arterial Hypertension and Diabetology of Wroclaw <u>Medical University</u>...*
[AM = Akademia Medyczna]

Interestingly, commenting on similar cases in English-Spanish translation of medical texts, Ynfiesta et al. (2013: 98) even suggest that sometimes it may prove advisable to introduce also a brief explanation in the target language that would make it clear what kind of institution is actually referred to in the text.

The remaining three procedures identified for translating source text abbreviated forms proved not to be very common. As for Procedure 1C, a Polish shortened form was simply omitted either because the source text information was irrelevant to the expected readers, as shown in example (10), or because

the context surrounding a corresponding target text fragment made it clear what was actually meant, as in example (11). In the latter case, the abbreviation *PAU* was used in the source text right next to the phrase *50% chorych*. However, the translator decided to leave this item out in translation and use it instead in the subsequent sentence, introducing in this way relevant background information for comprehending the meaning of the whole passage.

(10) ST: *Z SOR chorego przetransportowano do…*
      TT: *The patient was then transported to...*
      [SOR = Szpitalny Oddział Ratunkowy → the emergency department of a hospital]

(11) ST: *Uważa się, że u ponad 50% chorych z PAU w okresie obserwacji kontrolnych rozwijają się tętniaki aorty [3]. Zaopatrując aortę techniką wewnątrznaczyniową, zmniejsza się...*
      TT: *It was reported that ≤ 50% of patients developed substantial aortic aneurysms during follow-up. Sealing of PAU by the stent graft reduces...*
      [PAU = penetrating atherosclerotic ulcers → penetrujące owrzodzenie aorty]

By comparison, in the case of Procedure 1E, the source text abbreviated form was not simply omitted, but rather replaced with another term, which might be its hypernym, as in example (12) or some other general expression such as the possessive form of the third-person singular personal pronoun in example (13). As a matter of fact, Lee-Jahnke (2005: 82-83) argues that "sometimes paraphrases are necessary to render in the target language what the source language meant to express", provided that the reworded version makes reference to the entity the name of which has been abridged in the original text. The analysis shows that this procedure was most often used at some point within a complete target text paragraph, where the replaced abbreviation could actually be found in one of the introductory sentences. Thus, to improve readability by not using too many shortened forms in a single paragraph, the translators decided to refer to certain medical phenomena by means other than the abridged ones.

(12) ST: *Najczęstszymi ogólnoustrojowymi objawami GCA są...*
      TT: *They are often the first manifestation of the disease...*
      [GCA = giant cell arteritis → olbrzymiokomórkowe zapalenie tętnic = OZT]

(13) ST: *Następstwa AVF zależą od…*
      TT: *Its consequences depend on...*
      [AVF = arteriovenous fistulas → przetoki tętniczo-żylne = PTŻ]

Finally, in the case of Procedure 1D, which was not very common in the analysed corpus, a Polish shortened form was translated by a corresponding English abbreviation in parentheses preceded by its extension, as in:

(14) ST: *...podwyższona wartość <u>OB</u> przynajmniej do 50 mm/h...*
      TT: *...elevated <u>erythrocyte sedimentation rate (ESR)</u> ≥ 50 mm/hour...*
      [OB = odczyn/opad Biernackiego]
(15) ST: *...syntezie oraz uwalnianiu <u>CRP</u>...*
      TT: *...<u>C-reactive protein (CRP)</u> synthesis and release...*
      [CRP → białko C-reaktywne/białko ostrej fazy]

   In (14), the English equivalent is different than the source text item, however, in (15) both in the source and target text there appears the same abbreviated form, which is a shortening from English words. A possible reason behind resorting to this particular way of translating abridged forms may be the desire to simplify communication. Indeed, as Bloom (2000: 4) claims, in order not to "put the reader in the position of having to refer back" to a previous mention of some medical term in its full form, "it is preferable to spell out most repetitive phrases". Alternatively, the procedure under discussion seems to be helpful when a given abridged form occurs in the target text for the first time, as then it should be fully identified to avoid confusion. This situation is illustrated by example (16) in which the reader of the English text has to deal with the first mention of the initialism *UFH*.

(16) ST: *Natomiast największe ryzyko wystąpienia HIT, sięgające 5%, dotyczy chorych otrzymujących <u>UFH</u> przez 1–2 tygodni...*
      TT: *Still, the greatest risk of HIT, reaching 5%, concerns patients receiving <u>unfractional heparin (UFH</u>) for one to two weeks...*
      [UFH → heparyna niefrakcjonowana = HN]

7.1.2. Type Two examples within source text perspective

   Turning now to the basic procedures applied in translating Type Two examples, in which a source text abbreviated form is accompanied by its extension, it can be seen from Table 3 that there have been identified four of these.

Table 3: Procedures applied in translating Type Two examples within source text perspective

		Source Text fragment		Target Text fragment	
		Realization in Polish	No. of ST abb.	Realization in English	No. of TT abb.
Procedure	2A	full form + abb. form	88	full form + abb. form	88
	2B	full form + abb. form	24	abbreviated form	24
	2C	full form + abb. form	13	full form	--
	2D	full form + abb. form	1	abbreviated form omitted	--
Total		126 abbreviated forms		113 abbreviated forms	

In the majority of cases the English version is precisely the same as the Polish original. In particular, as in examples (17) and (18) show, both in the source and target text an abbreviation is preceded by its extension in respective language. The analysis shows that most often such an approach is adopted if a given medical term function in both languages under the same abridged name, which has been typically adopted from English.

(17) ST: *...chorych z <u>ostrym zespołem aortalnym (AAS)</u>...*
       TT: *...patients with <u>acute aortic syndromes (AAS)</u>...*
(18) ST: *...otyłość na podstawie <u>wskaźnika masy ciała (BMI)</u>...*
       TT: *...obesity according to <u>body mass index (BMI)</u>...*

An important comment here is that most often both in the source and target text a given term was first introduced in the full form and then followed by its respective shortening in parenthesis. However, as illustrated by examples (19) and (20), other combinations of the two elements were also identified.

(19) ST: *Podejrzenie to potwierdzono ostatecznie w badaniu <u>tomografii komputerowej (CT)</u>.*
       TT: *The suspicion was confirmed in <u>CT (Computed Tomography)</u>.*
       [CT → tomografia komputerowa = TK]
(20) ST: *CTA: zamknięty stentgraft uwidoczniony podczas ostatniej kontroli. AA — aorta wstępująca, <u>DA — aorta zstępująca</u>, ST — stentgraft...*
       TT: *Collapsed stentgraft within dissected aorta at the last follow-up CTA. AA — ascending aorta, <u>DA — descending aorta</u>, ST — stentgraft...*
       [DA → aorta zstepująca = AZ]

The second procedure applied in translating Type Two examples consisted in replacing a source text full form followed by its respective shortening in parenthesis by means of an abbreviated form alone, as in examples (21) and (22).

(21) ST: *W badaniu z zastosowaniem <u>rezonansu magnetycznego (MRI)</u> z opcją naczyniową, wykonanym w marcu 2006 r., stwierdzono:...*
       TT: *In <u>MRI</u> examination with the vascular option (performed in March 2006) it was stated,...*
       [MRI = magnetic resonance imaging → rezonans magnetyczny = RM]
(22) ST: *W Poradni Laryngologicznej w jednym z miast powiatowych wykonano <u>biopsję aspiracyjną cienkoigłową (BAC)</u>...*
       TT: *At the ENT clinic in one of the boroughs, a <u>BAC</u> was carried out...*
       [BAC = biopsja aspiracyjna cienkoigłowa → fine-needle aspiration biopsy = FNAB/FNA/NAB]

In example (22), the translator decided to leave the Polish abbreviation in translation, which might be confusing to the reader. In the source text

BAC refers to a kind of examination known as biopsy, whose acronymic equivalents in the target language are FNAB, FNA or NAB. They all function as alternative shortenings of the English equivalent term: *fine-needle aspiration biopsy*. Unfortunately, in English the acronym *BAC* usually stands for certain variants of lung cancer known generally as bronchioloalveolar carcinoma, and its only extension related to some kind of examination is blood alcohol concentration. Bearing in mind the mentioned example, it seems that the procedure proves useful mostly in those cases in which the abridged form employed in the source text functions as an international standard which has been fully integrated into other languages, and may thus be transferred without any changes.

The third procedure applied in translating Type Two examples consisted in replacing a source text abbreviation preceded by its extension by means of the target text full form equivalent, as in examples (23) and (24).

(23) ST: *…u drugiego chorego – <u>przewlekła obturacyjna choroba płuc (POChP)</u>, niewydolność nerek i niewydolność mięśnia sercowego (NYHA III/IV).*
TT: *…the second presented <u>chronic obstructive pulmonary disease</u>, renal insufficiency and heart failure NYHA class III/IV.*
[chronic obstructive pulmonary disease = COPD]

(24) ST: *Szczegółowa diagnostyka przyzwojaków oparta jest przede wszystkim na badaniach radiologicznych, takich jak: USG szyi, <u>tomografia komputerowa (CT)</u>, MRI oraz angiografia.*
TT: *A detailed diagnosis of paraganglioma is based first of all on radiological research, such as: ultrasound scan of the neck, <u>computer tomography</u>, magnetic resonance, or angiography.*

Even though the procedure is not very common in the analyzed corpus, it often improves comprehension on the part of the reader. For instance, in example (23), both *przewlekła obturacyjna choroba płuc* and its short form *POChP* are well-established terms in Polish medical usage. Therefore, instead of switching the source text abbreviated form into the target text one, the translator simply decided to use the English full form equivalent, especially that in the same sentence another abbreviation, *NYHA*, was left unchanged. Interestingly, Taylor (2011: 126) actually suggests "don't use more than one abbreviation in a sentence". By comparison, in example (24), the decision to omit the source text short form and employ only its English full form equivalent might have been dictated by stylistic reasons. Specifically, in Polish the fragment is packed with abbreviations, whereas in English only full names are used.

The last procedure applied in translating Type Two examples was in fact adopted once. In example (25), it can be seen that the underlined source text details concerning the laboratory tests carried out were completely omitted in translation.

(25) ST: *W trakcie 2-tygodniowej antybiotykoterapii ustąpiły kliniczne cechy zakażenia, a leukocytoza i stężenie białka C-reaktywnego (CRP) powróciły do wartości prawidłowych.*
TT: *The patient was treated for two weeks with teicoplanin, imipenem, and netilmicin, and the clinical laboratory and radiological symptoms of the infection receded.*

7.2. Target text perspective

Adopting now the target text perspective, where the focus is on 361 contextual situations in which an abbreviation was used in the target text irrespective of its absence in the source text, there have been distinguished two main types of examples. The more popular Type One comprises 321 cases in which in the English text there was employed a shortened form alone whereas Type Two comprises 40 cases in which there appeared a shortened form preceded by its extension. A general comment concerning all such examples is that employing an abbreviation in the target text, either alone or with an accompanying extension, proves useful when translating those source text elements which in English medical discourse are commonly abridged. Such an approach to the source text is also reasonable in the case of the genre of the medical case report which, by definition, "should be crisp, focused, and include few figures and references" (Juyal et al. 2013: 126).

7.2.1. Type One examples within target text perspective

As can be seen from Table 4, there have been identified three contextual situations in which meaning originally expressed by means other than the shortened forms was nevertheless abridged in translation.

Table 4: Contextual situations giving rise to Type One examples within target text perspective.

		Source Text fragment		Target Text fragment	
		Realization in Polish	No. of ST abb.	Realization in English	No. of TT abb.
Situation	1A	full form	--	abbreviated form	201
	1B	no abb. form – another word	--	abbreviated form	66
	1C	no abb. form	--	abbreviated form	54
Total		0 abbreviated forms		321 abbreviated forms	

In the majority of cases an abbreviation was used in the target text to translate terms that in the source text had been introduced only in their full form not accompanied by any abridged name. This approach to source text fragments is illustrated by example (26):

(26) ST: *Aktualnie istnieje kilka możliwości leczenia operacyjnego tętniaków tętnicy śledzionowej...*
      TT: *There are some disparate techniques of treatment of the SSA...*
      [SSA = an aneurysm of the splenic artery → *tętniak tętnicy śledzionowej]*

Interestingly, in the analysed corpus a few Polish full forms were almost exclusively translated in this way, in particular, *erytrocyty* (27), *nerka podkowiasta* (28), names of the different arteries, as illustrated by examples (29) and (30), and a few other medical terms.

(27) ST: *Po 6 tygodniach leczenia stan ogólny chorego poprawił się, a liczba erytrocytów wzrosła do 4,2 T/l, stężenie Hb do 8,1 g/dl, a żelaza w surowicy do 52 mg/dl.*
      TT: *After 6 weeks of this treatment, the patient's general condition was restored (RBC — 4.2 mio/ul, Hb — 8.1 g/100 ml, Fe — 52 mg/dl).*
      [RBC = red blood cells = krwinki czerwone, erytrocyty = RCB]
(28) ST: *...nie zawsze położenie, wielkość i kształt nerki podkowiastej pozwala...*
      TT: *...localization, size and form of HK does not always allow...*
      [HK = horseshoe kidney → nerka podkowiasta]
(29) ST: *Całkowity czas zaklemowania tętnicy szyjnej wspólnej wyniósł 33 min.*
      TT: *The total clamping time of CCA was 33 min.*
      [CCA = common carotid artery → tętnica szyjna wspólna]
(30) ST: *Jeżeli w wyższych odcinkach tętnica szyjna wewnętrzna jest zamknięta,...*
      TT: *When the occlusion is present in the higher parts of the ICA...*
      [ICA = internal carotid artery → tętnica szyjna wewnętrzna]

Less frequently, an abridged form served as an equivalent of some general expression, typically a hypernym, which in the source text referred to the discussed medical issue, as in examples (31) and (32).

(31) ST: *Niekiedy schorzenie może być ograniczone wyłącznie do dużych tętnic...*
      TT: *Although less frequently reported, GCA may be clinically isolated to large vessels...*
      [GCA = giant cell arteritis → olbrzymiokomórkowe zapalenie tętnic = OZT]
(32) ST: *W przypadku, kiedy tętniak lokalizuje się przywnękowo, należy wyciąć go wraz ze śledzioną.*
      TT: *In patients with hilar localization of the SAA surgical treatment offers excision of the aneurysm with splenectomy.*
      [SSA = an aneurysm of the splenic artery → tętniak tętnicy śledzionowej]

Generally, this particular approach to the translation of the source text helps to avoid misunderstanding on the part of the target text reader who, as we can see in example (33), might be confused encountering such an imprecise expression as *changes*, which is the English equivalent of the Polish word *zmiany*, in reference to a specific medical condition. As Taylor (2011: 59) suggests, in medical writing, "words must be chosen with care", and thus one "should strive to use just the right word in the exactly the precise way" as well as avoid words that can be confusing to the reader.

(33) ST: *W większości przypadków (94%) <u>zmiany</u> występują w części zstępującej aorty piersiowej…*
      TT: *In 94% of cases, <u>PAU</u> affects the descending thoracic aorta...*
      [PAU = penetrating atherosclerotic ulcer → penetrujące owrzodzenie aorty]

A similar effect was achieved in cases categorized as situation 1C. Here, as illustrated by examples (34) and (35), a short form is employed in the target text whenever a source text fragment lacks some necessary medical details which, although not directly expressed, constitute in fact its core meaning.

(34) ST: *Ze względu na brak poprawy <u>po leczeniu zachowawczym</u> oraz progresję zmian martwiczych podjęto decyzję o całkowitym wycięciu jelita grubego.*
      TT: *In view of the lack of improvement <u>after conservative treatment of **UC**</u> and progression of necrosis, a total proctocolectomy was performed.*
      [UC = ulcerative colitis → wrzodziejące zapalenie jelita grubego = WZJG]
(35) ST: *Właściwe leczenie i zaprzestanie aktywności wyzwalającej objawy mogą uchronić pacjenta przed najpoważniejszym i <u>nieodwracalnym powikłaniem,</u> jakim jest martwica i utrata palców.*
      TT: *The proper treatment and symptom-provoking activity restraint can protect against the most serious and <u>irreversible complication of **HHS**</u> – necrosis and loss of fingers.*
      [HHS = hypothenar hammer syndrome → zespół młotkowy kłębika]

7.2.2. Type Two examples within target text perspective

Turning now to Type Two examples, it can be seen from Table 5 that there have been identified two situations in which an abbreviated form preceded by its extension was used in the target text to translate fragments that in the source text had not been abridged.

Table 5. Contextual situations giving rise to Type Two examples within target text perspective

		Source Text fragment		Target Text fragment	
		Realization in Polish	No. of ST abb.	Realization in English	No. of TT abb.
Situation	2A	full form	--	full form + abb. form	36
	2B	no abb. form – another word	--	full form + abb. form	4
Total		0 abbreviated forms		40 abbreviated forms	

As illustrated by examples (36) and (37), in the majority of cases this concerns passages in which certain medical terms are introduced in their full form in the source text, mostly because they have no standard short form in Polish. Because typically this is their first mention in the text, in English, they are written in full and then followed by the corresponding abbreviation in parenthesis.

(36) ST: *Uszkodzenie <u>tętnicy piersiowej wewnętrznej</u> jest rzadkie...*
       TT: *Injury to the <u>internal mammary artery (IMA)</u> is rare...*
(37) ST: *...podając im dwa leki przeciwpłytkowe (<u>kwas acetylosalicylowy</u> 75–100 mg dziennie i klopidogrel 75 mg 2 × dziennie).*
       TT: *With administration of two antiplatelet agents [75–100 mg <u>acetylsalicylic acid (ASA)</u> daily and 2 × 75 mg clopidogrel daily]...*

By comparison, examples (38) and (39) illustrate another, though not very frequent, situation in which the same procedure was applied. Here, the combination of an abbreviation preceded by its extension is used in translating passages that in the source text have been introduced by means of some general expressions. For instance, in example (38), the Polish word *tętnicy* is meant to refer to a specific type of artery whose full name has in fact already been mentioned in the title and many times throughout the article.

(38) ST: *Około 9% zwężeń tętnic szyjnych rozpoczyna się powyżej rozwidlenia i sięga odcinka wewnątrzczaszkowego <u>tętnicy</u>...*
       TT: *About 9% of patients have stenosis located inside the <u>internal carotid artery (ICA)</u>, with the plaque originating above the bifurcation*
       [ICA = internal carotid artery → tętnica szyjna wewnętrzna]
(39) ST: *Dla olbrzymiokomórkowego zapalenia tętnic bardzo charakterystyczne są również <u>bóle karku</u>...*
       TT: *The patients may present symptoms of <u>polymyalgia rheumatica (PR)</u>, that coexists with GCA...*
       [PR = polymyalgia rheumatica → polimialgia reumatyczna]

8. Conclusions

To conclude, the analysis shows that abbreviated forms are an inherent part of medical communication – something that the translator of such texts should not only have an excellent command of, but should also employ in translation so as not to confuse potential readers. Certainly, there is little problem in those cases where the source text abbreviation is immediately recognizable by the medical profession as an international standard, as then it is typically left unchanged and written in full, especially on first reference. What, however, the translator should be aware of is that dealing with shortened forms in translation does not simply come down to the replacement of source text items with their target text equivalents. Providing meaningful communication may sometimes involve the decision whether to abridge a given fragment at all. Alternatively, some passages may need the use of abbreviated forms in translation irrelevant of the fact that in the original version certain concepts have been expressed in their full form.

From the analysis of Polish-English translations of medical case reports, it can be seen that the dominant trend observed among translators in their approach to shortened forms consists in preserving such items in translation. In particular, if abbreviations are encountered in the source text, they are most often translated by means of an equivalent target text abridged form. Interestingly, many of the source text abbreviations are actually left intact, which is especially the case if a given shortened form functions as an international standard. Indeed, the only abbreviations that are changed in translation seem to be those which are shortenings from Polish words, and thus, when translated into English, they are replaced by abbreviations which are shortenings of the English full names of the discussed medical phenomena. Almost the same can be said of those shortened forms which in the source text are preceded by their extension. Typically, both the abbreviation and its extension are preserved, however, the full form is replaced by its English equivalent, whereas the abbreviation is changed mostly in those cases in which it is not recognized as an international label.

Still, there are also certain contextual situations in which a shortened form is used in the target text to replace an unabridged source text fragment. This in turn largely contributes to the fact that in the case of the medical articles analysed in the present study, target text abbreviations are more numerous than the source text ones. Typically, shortened forms are used in the target text to translate terms that in the source text have been expressed in their full form. An important reason behind this seems to be linked to the need to keep the medical case report short and to the point. Nevertheless, the analysis also indicates that translators often resort to abridgement processes if a given source text fragment is not specific enough for an average reader to understand it clearly. Therefore, to avoid confusion, certain important medical details are not simply implied in the target text by means of equivalent general expressions, but instead are referred to by means of their abbreviated names in English. A similar approach to the source text is also sometimes observed if some medical term typically functions under

a standard abbreviation in target language medical discourse rather than under its full name, as is the case with the source language version.

As for those source text passages in which shortened forms are left out in translation, the usual procedure is to replace a given source language abbreviation with its equivalent full form in the target language. Such an approach to the source text proves especially useful in those cases where the shortened form which is to be translated refers to some unfamiliar circumstances, such as the names of local institutions. There are also sentences in which the use of full forms in the target text is clearly justified because of the presence of other numerous abbreviations in the very same statement or in its close proximity. The analysis also shows that sometimes there arises the need to replace the source text shortened forms with other words or even to quit them at all in translation. This decision is usually dictated either by the desire to omit certain irrelevant source text details or by the pursuit of disambiguation of the sense of a given source text fragment. Generally, it seems that everything is geared to readers' convenience and probably also expectations, especially those held by the international readership of the analysed medical case reports.

All in all, it cannot be denied that shortened forms are a convenient tool in the hands of those who want to save space in their texts or need to comply with the code-like conventions of modern science writing. However, those who use, read or interpret abbreviations, and among them are of course medical translators, need to remember that "many shortcuts are self-defeating; they waste the reader's time instead of conserving it", and thus "the only reliable shortcut in writing is to choose words that are strong and surefooted to carry readers on their way" (Strunk et al. 2005: 115). Therefore, the decision whether to keep the original shortened form or change it, or even to omit it at all in translation has to be taken with care and with due consideration of a configuration of various aspects that play a role in the specific translation task at hand.

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