SYNONYMS FOR DISEASE IN DENTAL TERMINOLOGY

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Abstract: Although scientific terminology (acording to Wüster, the father of modern terminology) is supposed to exclude synonymy and polysemy, there are a lot of synonyms in all areas of medicine. Dentistry makes no exception: anatomical nomeclature abounds in chains of synonymic terms of different origin (Greek, Latin, Graeco-Lation or English), and from the descriptive to the pathological there is just one step. My paper will outline the main categories of synonyms in dental terminology related to pathology, giving examples and enlarging upon the functions that synonymy plays in medical language.

Keywords: dental terminology, pathology, synonymy.

Eugen Wüster, the founder of the Vienna school of terminology, who is considered "the father of modern terminology", thought that the primary objective of terminology was "to unify concepts and systems of concepts, to define concepts, to reduce homonymy, to eliminate synonymy" (qtd. in Temmerman R., 2000, 11). Striving for precision, accuracy and clarity he insisted on the univocity of the scientific term. An engineer with a keen interest in information science and a strong opponent of ambiguity in professional communication, Wüster developed his theory of terminology on the basis of his experience in compiling *The Machine Tool. An Interlingual Dictionary of Basic Concepts* (1968), a systematic French-English-German dictionary of standardized terms. However, his theory was later contradicted by linguists such as Cabré and Temmerman, who noted that communicative and socio-cognitive aspects should play an important role in a theory of terminology. Rita Temmerman remarked that Wüster's approach was too limited, disregarding the dynamic nature of language, and she noted that specialized languages share both the synchronic and the diachronic features of natural languages. Contradicting Wüster's view that synonymy should be eliminated from any scientific terminologies, she pointed out that synonymy was functional in specialized languages, and that it reflected different perspectives (Temmerman R., 2000, 150).

Medical terminology has a long history, maybe the longest of any terminology, going back to ancient Rome and Greece, and including influences as diverse as Hippocratic and Arab medicine. Unlike mathematics and informatics, whose terminologies are more specific and more exact (they are classified as exact sciences), medicine is part of the natural sciences and together with biology makes up the life-sciences. As the new field of translational medicine has repeatedly emphasized, medicine is such a complex field, comprising sciences as diverse as biochemistry, biophysics, anatomy and physiology, that translation is always required, first from one field to the other, then from the more research-oriented disciplines to the clinical practice. Under these circumstances, standardization becomes an impossible dream in medical terminology. So instead on concentrating on the impossible, it makes more sense to deal with the wealth of medical nomenclature and try to outline the function/the functions that synonymy plays in medical language.

Most cases of synonymy occur in the field of descriptive and pathological anatomy. The anatomical nomenclature referring to different structures of the human body as well as

the vocabulary related to signs, symptoms, disorders and diseases abounds in synonyms: one reason why this is so is because the history of some of these terms goes back to ancient Graeco-Latin medicine. Furthermore, Graeco-Latin terms were not only "inherited" by mediaeval and early modern medicine; starting with the Renaissance and continuing with scientific revolution in the 17th century, new terms for new discoveries (dissection had improved anatomical knowledge and led to the discovery of minute structures of the human body) were coined on the basis of word parts derived from ancient Greek and Latin. Thus ancient Greek and Latin continued to be productive inside medical communities until as late the 20th century[1]. Thus to the popular English names referring to different structures of the body, one or more terms of Graeco-Latin origin are also added. To complicate matters further, the history of medical discoveries led to the formation of new terms, eponyms that celebrated the individual researcher or scientist who contributed to the progress of medicine. Thus, the bacillus that causes tuberculosis bears both a Latin name "Mycobacterium tuberculosis" and the name of the German microbiologist that had identified it, "Koch's bacillus" (Robert Koch); the pancreatic islets that secrete insulin are named after the German physician who first described them: "the islets of Langerhans" (Paul Langerhans). A short look into medical nomenclature proves Temmerman right: synonymy in medical language has a strong diachronic dimension, pointing to the development of the science and the changes that it underwent in different periods.

Dental terminology comprises anatomical nomenclature referring to the structures of the head and neck, vocabulary related to different diseases of the teeth and the oral cavity as well as to systemic diseases that affect the oral cavity or its associated structures, and technical vocabulary designating equipment and instruments used in various dental specialties. My paper will try to outline different categories of synonyms related to diseases and disorders of the oral cavity.

1. The first category includes synonymic pairs/chains made up of two/more terms, of which one/more can be of Greek/Latin/Graeco-Latin origin, while the other(s) are of English origin. The Greek/Latin/Graecolatin terms are used by specialists in scientific papers, while the English synonym is usually the layman's term for the disease, which the physician uses in the communication with the patient or his relatives. This is an extremely productive category, and in its turn comprises two subcategories:

1.a. Compound nouns:

toothache – odontalgia – odontodynia – dentalgia

There are also chains of synonymous adjectives, of which one is an English term, and the others of Graeco-Latin origin:

toothless – edentulous – edentate - agomphious

1.b. Noun phrases:

alveolitis sicca – dry socket
herpes labialis – fever blister
granuloma gravidarum – pregnancy tumor
lingua villosa alba – white hairy tongue
lingua geographica – geographic tongue
lingua nigra – black tongue
erythema infectiosum – fifth disease
fetor hepaticus – liver breath

1 An example in this respect is the coinage of "ribosomes", the particles discovered by the Romanian American cell-biologist George Emil Palade. Alternatively called "Palade's corpuscles", the term "ribosome" (from ribo- German, "nucleic acid "and some – Greek, "body") was suggested by microbiologist Richard B. Roberts.

atrophic glossitis – smooth tongue – bald tongue
dens in dente – dens invaginatus – gestant odontoma
lingua fissurata – lingua plicata – fissured tongue

Some synonymic pairs/chains include both nouns/compound nouns and noun phrases:

bruxomania – teeth clenching
glossotrichia – hairy tongue
brachygnathia – bird face
cheilocarcinoma – lip cancer
cheilophagia – lip biting
trismus – lock jaw
noma – cancrum oris
cheiloschisis – harelip – cleft lip
parulis – gumboil – gingival abscess
encefalocele – craniocele – cranium bifidum – bifid cranium
endolith – pulp calculus – pulp stone – pulp nodule
fetor oris – halitosis – ozostomia - bad breath

With only few exceptions, both the synonyms in 1)a and the synonyms in 1)b are "translations" from the specialized vocabulary into the layman's language or the other way round. In the case of compound nouns that refer to different types of pain as symptoms of diseases, there are two suffixes, *-algia* (Latin) and *-dynia* (Greek), that can be used to form synonymous nouns: odontalgia - odontodynia (toothache), glossoalgia – glossodynia (tongue pain), gnathalgia – gnathodynia (maxillary pain).

2. The second category includes compound nouns made up of word parts derived from Latin and Greek and ending in one of the following suffixes: -y, - ia, -ism, -itis. They have in common at least one word part, either a combining root, a suffix or a prefix:

alogia – aphasia
aerodontalgia -barodontalgia
megadontism - macrodontia
megagnathia – macrognathia
megaloglossia – macroglossia
hypodontia – oligodontia
micrognathia- brachygnathia
odontitis – pulpitis
neuritis – neuropathy
sialoangitis – sialodochitis

From these nouns synonymous adjectives can be derived:

megadont – macrodont
megagnathous – macrognathous

There is also a category of synonymous adjectives made up of different word parts of Graeco-Latin origin:

adiaphoretic - anhidrotic

Some of the terms in this category have more than one synonym:

actinomycosis – actinophytosis – botryomycosis

3. Another large category includes synonymous noun phrases, of mixed English and Graeco-Latin origin, that differ either in the attributive adjectives/nouns they take or in their noun head. They have at least one part of the noun phrase in common:

stitch abscess – suture abscess
actinic cheilitis – solar cheilitis
follicular cyst – dentigerous cyst
subgingival calculus – serumal calculus

atypical gingivitis – plasma cell gingivitis
pregnancy gingivitis – hormonal gingivitis
diphenylhydantoin gingivitis – dilantin gingivitis
cyclic neutropenia – periodic neutropenia
ocular cicatricial pemphigoid – benign mucous membrane pemphigoid
subcrestal pocket – infrabony pocket
oral epithelial nevus – white sponge nevus
allergic stomatitis – allergic mucositis
cleidocranial dyostosis – cleidocranial dysplasia
gingival resorbtion – gingival recession
lateral alveolar abscess – pericemental abscess
mandibulofacial dysplasia – mandibulofacial dyostosis
palatal myoclonus – palatal tremor
recurrent decay – recurrent caries
orodigitofacial dyostosis – orofaciodigital syndrome

In the last example, there is a recombination of the word parts that make up the attributive adjective: *oro-* , *digito-*, and *facio-*.

4. A few synonymic pairs are made up of one noun and one noun phrase, having in common at least a word part:

agranulocytosis – agranulocytic angina
alcoholism – alcohol addiction
alveoalgia – alveolar osteitis
mercurialism – mercury poisoning
odontoameloblastoma – ameloblastic odontoma

5. Another category is made up of a descriptive term and an eponym. This is by far the largest category of synonyms and the most heterogeneous: most descriptive terms are in English, while some may be of Graeco-Latin origin. Some diseases have chains of synonyms that include at least one medical eponym:

adenolymphoma - Warthin's tumour
aglossia-adactylia syndrome – Jussieu syndrome
agranulocytic angina – Schultz's angina
auriculo-temoral nerve syndrome – Frey syndrome
cranioectodermal dysplasia– Sensenbrenner syndrome
histiocytic necrotizing lymphadenitis – Kikuchi disease, Kikuchi-Fujimoto disease
lipochondrodystrophy – Hurler syndrome
gingival cysts of the newborn - Bohn's nodules
calcifying cyst -Gorlin cyst,
jaw-winking syndrome – Marcus Gunn phenomenon
marginal periodontitis – Fauchard's disease
maxillonasal dysplasia - Binder's syndrome
mucocutaneous lymph node syndrome – Kawasaki disease
notched teeth – screwdriver teeth – syphilitic teeth - Hutchinson teeth
palatal cysts of the newborn – Epstein pearls
paratrigeminal syndrome – Raeder syndrome
periadenitis mucosa necrotica recurrens – Mikulitz aphtae, Sutton disease
uveoparotid fever – Heerfordt's syndrome
tongue phenomenon – Schultze sign
bald tongue – atrophic glossitis – Hunter glossitis - Moeller glossitis
temporal arteritis - giant cell arteritis - cranial arteritis - Horton's disease

6. A smaller category includes two descriptive terms, of which the second is an abbreviation

of the first. These are usually long detailed descriptive names of diseases, whose longer version is employed in the scientific literature, while the shorter version serves the purpose of communication better:

fibroosseous integration – fibrous integration
localized juvenile periodontitis – juvenile periodontitis
acute primary herpetic gingivostomatitis – primary herpetic gingivostomatitis
apical periodontal abscess – periapical abscess – apical abscess
apical periodontal cyst – periapical cyst
traumatogenic occlusion – traumatic occlusion
juvenile periodontitis - periodontosis
chronic desquamative gingivitis - gingivosis

7. Some diseases and anomalies have among their synonyms terms originating in French:

tapir mouth – bouche de tapir
angular cheilitis - perleche
trigeminal neuralgia – tic douloureux

Some diseases have chains of synonyms that can be integrated into two or more of the categories mentioned above. In general, the more frequently the disease occurs, the more synonyms it has. Another reason for these long chains of synonyms is the existence of different descriptions that deal with the complexities of disease from various points of view. Some examples of long synonymic chains are:

1. aphtae – aphtae minor – canker sore – aphtous stomatitis – recurrent aphtous stomatitis - recurrent aphtous ulcer, recurrent ulcerative stomatitis – ulcerative stomatitis
2, fusospirochetal gingivitis – necrotizing ulcerative gingivitis - ulceromembranous gingivitis - trench mouth - Vincent gingivitis – Vincent angina
3. notched teeth – screwdriver teeth – syphilitic teeth - Hutchinson teeth – Hutchinson incisors

These long synonymic chains offer a more inclusive perspective on the etiology, symptomatology, and history of disease. The long synonymic chain describing aphtae includes English (sore), Greek (aphta) and Latin (ulcer < Lat. Ulcus) terms for ulceration; it points to an infection of the oral cavity (stomatitis < stoma = mouth + itis= suffix for inflammation) and it describes the intermittent episodes of painful oral ulcers that characterize the disease by using the adjective “recurrent”. It thus offers a complete “clinical picture” of the disease. The same holds true for the description of “necrotizing ulcerative gingivitis”: while the second and the third term concentrate on the description of disease (inflammation of the gingiva, characterized by recurrent ulcers and necrosis), the first one refers to the etiology of the disease (caused by the combination between a fusiform bacillus and the spirochete Borrelia vincentii), while the English term and the eponyms reveal something of the history of the disease. “Trench mouth” refers to the high incidence of this periodontal disease during the First World War, when the soldiers in the trenches lacked proper oral hygiene and consequently developed periodontal disease. The eponyms celebrate the French physician Jean Hyacinthe Henri Vincent (1862-1950), who discovered the pathogens that caused this acute infection of the oral tissues. The father of oral medicine, Sir Jonathan Hutchinson (1828 - 1913) is remembered in the name of one of the three signs of congenital syphilis, the “Hutchinson teeth”/ “Hutchinson incisors”. While the etiology of this anomaly is described by the term “syphilitic teeth”, the first two synonyms are purely descriptive: the incisors of newborns with congenital syphilis have notches, which give them the appearance of screwdrivers.

It thus appears self-evident that, contrary to the standardization imperative pronounced by Wüster, synonymy has been and goes on being quite productive in medical terminology - and by extension in dental terminology, too. The social function of

medical/dental synonymy is to mediate between a purely scientific language, understood only by a restricted scientific community and a language that is commonly used by physicians and patients in their communication. Synonymy also points to the diachronic transformation of the terminology as well as medical history: while some synonyms have a purely descriptive meaning (even if these meanings show signs of differentiated social usage), others refer to the history of the discovery, diagnosis or treatment of a specific disease.

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