

Bibliographic title search for medical cardiological “signs” (eponyms)

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Abstract

Background: The word “sign” refers to important physical findings or observations that are useful in diagnosis; however, there are no scientific reviews of “signs.” The aim of this paper was to list and review these terms using a bibliographic approach.

Methods: We performed a title search of “sign” using a bibliographic search and review approach in MEDLINE and EMBASE.

Results: We detected 398 papers including 217 medical signs in cardiology.

Conclusions: This is the first literature review of eponyms specifically for signs using a bibliographic method, which is useful for the discussion of the appropriateness of eponyms.

KEYWORDS

cardiology, eponymously named medical signs, heart disease, medical education, medical eponyms, signs

1 | INTRODUCTION

The words “~ sign,” which was the most popular form of eponyms, represents the naming of a disease or condition after a person or a place.^{1,2} Although it is useful in diagnosis and a way to honor eminent physicians with an illness, symptom, or anatomical area named after them, it resulted in vague definitions of eponyms.^{1,2} Several studies refer to the “sign” from a clinical viewpoint, but none have fully evaluated and catalogued “signs” from a scientific viewpoint.³⁻⁵ The aim of this study was to list and review major cardiological signs, using a bibliographic approach.

2 | METHODS AND RESULTS

We reviewed all research papers in the MEDLINE and EMBASE databases with titles including the term “sign” via PubMed and

EMBASE. We searched PubMed on 7 March, 2017, and EMBASE on 13 May, 2017, for papers concerning heart diseases under the following search criteria: (Heart Diseases[Mesh] AND sign[TI]) NOT (“vital sign”[TI]) for PubMed and (“heart disease”/exp and sign:ti not (“vital sign”:ti or “important sign”:ti or ...)) not (“heart disease”/exp and sign:ti not (“vital sign”:ti or “important sign”:ti or ...) and [medline]/lim) for EMBASE. Initially, we found 1003 articles from MEDLINE and 205 articles from EMBASE about medical cardiological signs.

As a benchmark for the validity of the target dissertations, we selected signs derived from the name of the person who first reported them, or the place where they were first suggested,³ the shape of the object,⁴ etc., and then blindly reviewed each validity with an experienced cardiologist and a general cardiologist fellow (A.M. and T.K.). Signs that were not valid for extracting a specific clinical sign name, such as “important sign,” “new sign,” and “prognostic sign,” were excluded. The case of the same or similar medical sign names representing the same phenomenon reported in different articles

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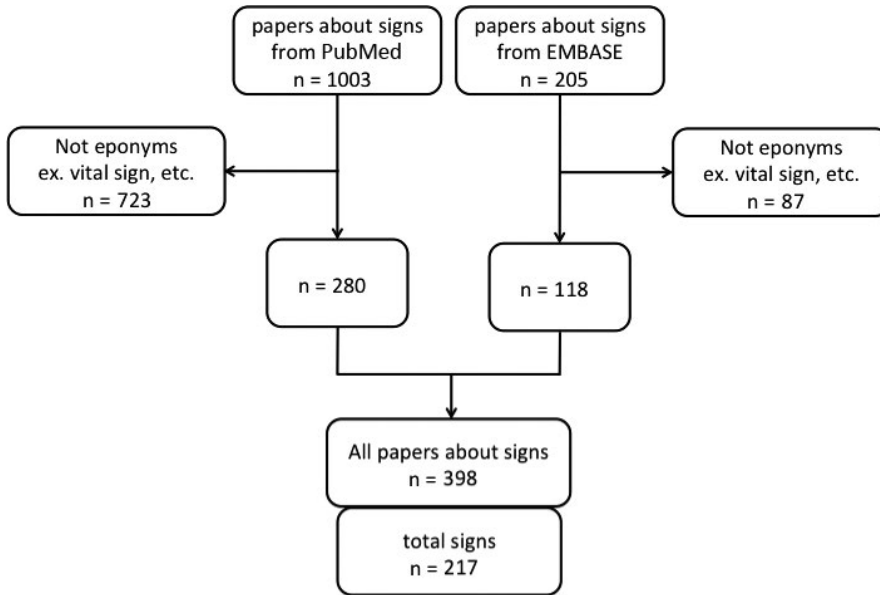


FIGURE 1 Bibliographic search strategies

was defined as “overlap.” If we found an overlap, we categorized these signs using the more popular term by the reviewers.

We finally identified 398 articles (280 from MEDLINE and 118 from EMBASE) including 217 medical signs in cardiology (Figure 1) (Table S1). Sixty of the 217 (27.6%) signs occurred more than once, and 157 of the 217 (72.4%) signs appeared only once. We catalogued the top 20 medical signs with frequent overlaps in Table 1.

3 | DISCUSSION

To the best of our knowledge, this is the first bibliographic search and review conducted on signs in cardiology. We found 217 medical signs in this area, which could be the basis for further investigations using text data mining.

Eponyms (especially “sign”) reflect the close observation of many clinical findings.¹ Although there is no clear academic or scientific definition of an eponym, Bayer et al states that eponymous status is certified by (a) its use in dissertation and published paper titles and (b) its use in written text without an accompanying citation.⁶ Therefore, as these “signs” were mentioned in published paper titles, they could be considered certified eponyms. Our title search may provide the baseline data for a discussion of appropriate eponyms as medical terms.

Eponyms are useful in communicating effectively with other health providers. As Whitworse mentions: “Do we really want to speak of congenital cyanotic heart disease due to ventricular septal defect, pulmonary stenosis, right ventricular hypertrophy, and aortic dextroposition, rather than Fallot’s tetralogy?” Furthermore, eponyms are useful in teaching resident medics about bedside physical findings. And, these sign-related data are useful as reference lists for clinicians. Therefore, these data are educational both for residents and for researchers.⁷

Although we successfully catalogued “sign” in cardiology literature, we admit several limitations of our study. We did not search for

TABLE 1 Top 20 cardiological signs with frequent overlaps. “No. of overlaps” means the number of articles that mention each eponym

| No. | Sign name | No. of overlaps |
|-----|---|-----------------|
| 1 | Brugada sign | 18 |
| 2 | McConnell’s sign | 18 |
| 3 | Kussmaul’s sign | 15 |
| 4 | Napkin-ring sign | 11 |
| 5 | Frank’s sign | 9 |
| 6 | String sign | 8 |
| 7 | Wellens’ sign | 8 |
| 8 | Brockenbrough-Braunwald-Morrow sign | 7 |
| 9 | Ear lobe crease sign | 6 |
| 10 | Hyperdense internal carotid artery sign | 6 |
| 11 | Spiked helmet sign | 6 |
| 12 | Cope’s sign | 5 |
| 13 | Epicardial fat pad sign | 5 |
| 14 | Hill’s sign | 5 |
| 15 | Reverse McConnell’s sign | 5 |
| 16 | de Winter sign | 4 |
| 17 | Hump sign | 4 |
| 18 | Hyperdense artery sign | 4 |
| 19 | Reversal sign | 4 |
| 20 | Scimitar sign | 4 |

other eponyms, such as “syndromes,” and we searched for the word “sign” only in titles. We acknowledge this might seem to result in a lack of comprehensiveness. Due to the heterogenicities of eponyms except for “sign,” a title search and focusing on signs was only the method to determine eponymic status objectively, and the chief aim of this study

was to list the cardiological signs by appropriate and reproducible methods. Despite these limitations, our results can help researchers and clinicians to understand the variety and diversity of signs.

4 | CONCLUSION

We successfully reviewed cardiological signs using a bibliographic research method. This is the first literature review of eponyms focusing on "signs." Our results might help practitioners to learn and teach eponyms to young physicians.

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CONFLICT OF INTERESTS

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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