



Systematic Review

Writing medical case report – A primer for the beginners

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ABSTRACT

In scientific writing, a case report is considered the first attempt by the novice author to convey a message to the peer group and maybe to a non-technical literate person. Preparing a case report is the most useful tool in learning, as the basic methodology is similar to writing scientific literature and subsequent publications. A medical case report shares with the intended and interested reader an unforeseen clinical occurrence and information. As the source of future big discoveries often has its seed in the case reports, following the standard guideline is of utmost importance to young researchers for their entry into the medical literature universe.

Keywords: Medical case, Writing, How to, Beginner, Reporting

INTRODUCTION

Throughout the history of the modern medical sciences, the clinical case report has been closely associated with the medical literature. An Egyptian papyrus from 1600 BC describing the management of a dislocated jawbone is considered to be the oldest clinical case in the medical literature. Similar examples include Hippocratic case histories, “Epidemics” (400 BC), Galenic case reports (200 AD), and “Kitab Al-Hawi” of Abu Bakr Mohamed Ibn Zakariya Al-Razi (865–929 AD), which were used to communicate with colleagues about notable cases that they had come across.^[1]

In the modern era of scientific writing, a case report is considered to be the first attempt by many medical professionals to convey a message among a peer group of doctors and other healthcare professionals. Thus, preparing a case report is the most useful tool in learning the mode of writing scientific literature and subsequent publication in medical journals, as the basic methodology is similar.^[2,3]

William Osler has described how a physician can learn from the encounters with patients “The best teaching of medicine is that taught by the patient himself.” Through communication and reporting, such knowledge, based on the observation of clinical cases, can be circulated to the scientific community in general.^[4]

Some notable diseases have initially been described as case reports. The first description in 1981, having the title “A preliminary communication on extensively disseminated Kaposi’s sarcoma in a young homosexual man” in the medical case report, represented the discovery of acquired immunodeficiency syndrome.^[5] “An Essay on the Shaking Palsy” by James Parkinson in 1817 in the case study format was the first description of Parkinson’s disease in the scientific literature.^[6]

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One of the essentials of medicine and patient care is the skill of recording, discussing with peer groups, and publishing clinical observations with patients. Sir William Osler once said, “Always note and record the unusual...Publish it. Place it on a permanent record as a short, concise note. Such communications are always of value.”^[7]

The goal of publishing a case report is to expand a physician’s knowledge of clinical features, diagnostic methods, and therapeutic options of a disease, thereby improving the quality of medical care provided to the patients. Practical and educational messages simultaneously should be present in a standard case report.^[8,9] To disseminate scientific knowledge to the vast number of medical professionals, case reports are now developed to be accepted as scholarly publications.^[10]

A MEDICAL CASE REPORT

In a simple way, a case report is “A report of a single case of a disease, usually with an unexpected presentation, which typically describes the findings, clinical course, and prognosis of the case, often accompanied by a review of other cases previously reported in the biomedical literature to put the reported case in context.”^[11]

A case report shares with the interested reader an unforeseen clinical occurrence and information in the domain of medical science. A case report may provide a novel presentation of a disease, investigation, management, or complications. One notable aspect of a good case report is that it directs the upcoming scientific study to enhance evidence-based medicine.^[12,13]

It is well accepted that with respect to the hierarchy of study design, randomized controlled trials are located at the apex, followed by controlled trials, observational studies, case-control studies, and case series. The lower segment of the ranking is constituted by case reports and expert opinion.^[14] However, publishing a case report in a medical journal is an excellent avenue for the introduction and initiation of scientific literature writing for budding researchers, irrespective of the study design ranking.

REASONS FOR WRITING A CASE REPORT

Writing and presenting a report on an interesting case continues to be a certain mode to highlight a new condition swiftly and conveniently to draw the attention of the medical fraternity.^[15] It is generally agreed that case reports have a significant domain in the published literature that provides new data in the arena of medical sciences.^[16,17]

HIGHLIGHTS OF A CASE REPORT

The most important benchmark commonly mentioned by the authors is uniqueness, which is also validated by

the editors. However, as a truly unique case is a very rare event, the focus must be on the educational value of such an occurrence. Rare presentation of a common disorder, unique diagnostic modalities or treatment, and diagnostic strategies are valuable additions to the medical publication, even if the case is not unique.^[15,18]

THE TYPICAL FORMAT OF A MANUSCRIPT OF A CASE REPORT

A typical case report begins with an abstract, followed by an introduction incorporating a short literature review. This is followed by a description of the presenting case. This section is followed by a discussion with a comparison of previously described cases in the literature. The conclusion should consist of salient aspects of the case in a summarized version and any contribution annexed to the existing literature. The size of a case report is smaller than other types of articles.^[12,13] Therefore, a case report does not follow the IMRAD (introduction, methods, results, and discussion) format as used in the original article. Moreover, the authors are usually advised to follow the instructions of the particular journal of interest during submission, as the format of case reports varies among different journals.

For lucidity and easy understanding, a case report must have figures, along with graphs, illustrations, and tables, as required.^[19]

THE TITLE

Initial attention to any article is drawn by its title. Moreover, a suitable title is very important when searching for appropriate references from a database. The required criteria for a suitable title are in the appropriate context to the subject of the case, it should portray the information in a summarized form. The title should not include superfluous words such as “review of the literature” or “case reports”. A well-constructed title must attract the reader’s attention for further in-depth reading of the particular case without a sense of unwieldy or miscommunication.^[20] In the modern era, a suitable title is very important for obtaining the appropriate contextual search results from the medical literature database. A list of such suitable titles is provided in Table 1.

WRITING AN ABSTRACT

An abstract provides the reader a summarized description of all aspects of the case and it is mandatory in many journals. The abstract is a segment of the manuscript where the Editor scrutinizes the suitability for the peer review process for publication. The abstract provides a short description and a brief impression of the context of the article. Unlike an original article, the abstract of a case report is more compact

Table 1: Example of some of the case reports published in “JHAS” from 2021 to 2023.

Title of the case report	Journal name. Year; Volume: page no. (DOI)
Bone infarct (osteonecrosis) as a late side effect of steroids in acute lymphoblastic leukemia survivors.	J Hematol Allied Sci 2021;1 (1):38–40. (https://dx.doi.org/10.25259/JHAS_6_2021)
A rare case of bone marrow infiltration by T-cell/histiocyte-rich large B-cell lymphoma masquerading as hemophagocytic lymphohistiocytosis.	J Hematol Allied Sci 2022;2:15-7. (https://dx.doi.org/10.25259/JHAS_9_2022)
Pulmonary parenchymal involvement by Classic Hodgkin Lymphoma – An unusual presentation.	J Hematol Allied Sci 2022;2:18-20. (https://dx.doi.org/10.25259/JHAS_14_2022)
Azathioprine-induced severe pancytopenia: A serious complication in a patient with normal TPMT activity.	J Hematol Allied Sci 2022;2:55-8. (https://dx.doi.org/10.25259/JHAS_29_2021)
JHAS: Journal of Hematology and Allied Sciences, TPMT: Thiopurine Methyl Transferase	

and unstructured. The main target of this section is to address the clinical and diagnostic dilemma in the background of the presentation of the particular case and subsequent proceedings. It must contain all vital aspects of the particular case arousing interest to the readers and retrieval of information in the database of medical literature.^[21]

THE INTRODUCTION

Similar to the other segments, the introduction of a case report should be brief and precise and aim to arouse the attention of the readers and the Editor during the process of peer review. It must provide the context, the clinical and/or diagnostic dilemma, and stress why the particular case is suitable for publishing. A brief review of the previous literature including any similarity or rarity should be incorporated to substantiate the authors' viewpoint.^[19] It is also to be noted that some journals do not incorporate the introduction in a case report and the body of the case begins with a description of the case. Some contextual literature also must be described in the discussion section. Hence, authors should make a balanced approach by mentioning the most relevant literature in the introduction.^[21]

THE CASE SUMMARY

The core of any case report is the appropriate description of the patient, which is to be described in this segment of the manuscript. The usual approach to follow is according to the order of events. The initial few sentences may contain the demographic data of the case. A vivid detail of all aspects of the case must be described to produce a perfect clinical depiction.^[12,21] All aspects of medical history and sequential medical events, including the history of current illness and information obtained by physical examination with relevant photographs, should be provided. Reports of different laboratory and imaging studies with representative figures are an essential part of any case report, this should be followed by the differential diagnosis, and the final diagnosis followed by the management and follow-up as applicable.^[2,22] Moreover, all significant negative observations should be depicted so

that the readers would get a holistic picture of their own conclusions. All personal details and identity of the patient must not be revealed. Potential revalidation of identity, such as initials of the name, hospital identification number, and investigation report number, must be concealed.^[19]

Tables can be selectively used to reveal the chronological sequences or to compare observations noted by different techniques.^[19] All figures should be numbered and must contain a brief, suitable legend. A comprehensive description of the surgical procedure and detailed pathological/radiological reports should be provided in the case summary.^[19,21]

THE DISCUSSION

The purpose of the discussion segment is to concisely describe the key aspect of the case with an explanation of various findings. Furthermore, the discussion also contains comparison, uniqueness, the applicability of findings, and technique to the clinical practice in the future by comparing the existing medical literature.^[12,23] By comparing with the presently available information, authors should briefly state the differences so as to establish its standing for publication and readability. As the case report is not meant for literature – review, only the references of relevance to the present case should be cited. More importantly, clinical or diagnostic dilemmas, newer procedures, and management must be highlighted as lesson that will be used in the future.^[12,21,23]

The last paragraph is devoted to the conclusion of the present case. The conclusion must only highlight the significant clinical aspect and its evidence-based recommendation. No new information should be provided in this brief statement.^[23]

THE REFERENCES

Only relevant information containing references should be quoted to highlight the similarity or uniqueness of the present case report. Moreover, the reference may contain supplementary information for further studies.^[24] The number of references permitted in a case report manuscript may be motioned in the journal's manuscript submission instruction.

Table 2: Standard checklist for writing case reports.

Title	It should be brief and informative.
Abstract	It should facilitate retrieval with electronic searching. Has a word limit of 100 words or less.
Introduction	It should be concise and attract the reader's attention. Describe the uniqueness of the case and how the case contributes to the existing literature. Is the message new and relevant to the medical imaging specialists?
Case report	Clearly describe the current medical condition and medical history in chronological order. Provide details of the clinical presentation and examinations, including those from imaging and laboratory studies. Describe the treatments, follow-up, and final diagnosis adequately.
Discussion	Summarize the essential features and compare the case report with the literature. Explain the rationale for reporting the case. State the lessons/experiences that may be learnt from the case report and how things can be managed differently in a similar situation/case.
References	Should be relevant to the topic. Limited to less than 15.
Figures and tables	Limited to one table and two to three figures. Illustrations should be effective.

A standard checklist for different segment of a case report is shown in Table 2.^[16]

Further, checklists are available on the Equator network website which may be used by the authors.^[25]

WAYS TO AVOID PLAGIARISM

Any mode of any “cut and paste” type of writing must be avoided to exclude similarity matches. Moreover, copying a text from any article written by self (re-cycling) and published earlier falls under purview of self-plagiarism. This can be best achieved by applying self-creativity and language. All the authors must review the manuscript before submission. Software for the detection of plagiarism can be used for the refinement.^[26]

CONCLUSION

The most significant aspect of publishing a case report is that it provides unique or unusual information which is a lesson for future clinical practice for the presenters as well as for the readers. A well-documented case report may be the source of future big discoveries or pathways of management. Following the standard guidelines and tips will provide budding

researchers with the first step on their journey to the medical literature universe.

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

Patient consent was not required as there are no patients in this study.

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Conflicts of interest

Prakas Kumar Mandal and Sudipta Chakrabarti are the members of the editorial board of the journal.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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