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*Editorial:*

**CASE REPORT:  
WHY, WHAT FOR AND HOW**

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## THE IMPORTANCE OF CASE REPORTS

When analyzing Medicine based on the scientific method, a transversal dialectical process becomes evident, since its construction as a science is founded on the fact that knowledge is constantly challenging itself through experimentation and new observations. Such dialectical phenomenon is not the only one that defines Medicine as a science: readiness to create new hypotheses about health-disease processes that cannot be explained with current knowledge is also part of this.

This search for truth mechanisms in Medicine is especially applicable when its object of study is the biological machine that makes up humans. This conception of Medicine — which could be called positivist— is limited and impractical if applied in isolation, although there are strong attempts to clearly define its object of study from reductionism because of the complexity of humans as a biological phenomenon and as a social, ethical and political entity.

However, the positivist approach to Medicine is, at the same time, one of its fundamental components. In turn, case reports become a powerful investigative tool for such approach and a communication mechanism for clinical practice; it is the most efficient way of detecting atypical events in health-disease process, either generated by novelty or by peculiarity (1).

That each tool and research approach are applicable and are limited must be clear (1). Evidence-based Medicine (EBM), as a substantial instrument for clinical practice, emerges and is defined by the intention to support diagnostic and therapeutic clinical decisions, and to determine the prognosis of the disease (2). Nevertheless, defining EBM

only based on randomized clinical trials is a mistake; therefore, suggesting that clinical cases are excluded is false. Thus, clinical cases can also be, sometimes, decisive evidence with the highest quality (3,4).

Although clinical decision is the ultimate goal of medicine, it is not its only goal. The discovery of new diseases, how they generate and the behavior of a healthy body are also research objectives for Medicine. In that sense, randomized clinical trials lose effectiveness to detect new diseases or its variants, since their focus is on population, and inferential and descriptive statistics are their backbone. In consequence, they have little power to discover rare or novel variations of the disease, because they are intended to study trends and average values of morbid phenomena.

Thus, case reports —understood as a way of communicating that which is atypical and new— contributes substantially in areas where large-scale population studies have limitations (5). Hence, the role of case reports in positivist medicine, as described above, is sufficient to demonstrate their importance, but this is not its only use. Table 1 shows other scenarios in which case reports have an important role.

Evidence of the potential usefulness of case reports in various scenarios and their resurgence as an investigative method is found in the significant increase of specialized journals about the topic in the last decade (6).

Table 1. Usefulness of case reports in medical and related sciences.

### Study of health and disease

Recognition of new diseases  
Description of atypical variants of known diseases  
Report of rare diseases

**Study of health and disease**

Atypical associations of symptoms or signs  
 Proposal of hypotheses about the mechanism of diseases  
 Study of the physiology and anatomy of the healthy body

**Proof of concept in diagnosis and therapeutics**

Proposals of new diagnostic tools  
 Presentation of novel therapeutic tools

**Epidemiological surveillance**

Drug monitoring and reporting of adverse events in medical interventions  
 Report of beneficial side effects of interventions

**Pedagogical usefulness**

Medical education through emphasis on important clinical lesions  
 Presentation of useful images in medical training

**Public health analysis**

Comparisons of medical care forms in different settings  
 Study of health inequities

Source: Own elaboration based on the data obtained in the study.

- Willingness to study and deepen medical education.
- Capacity to be surprised.
- Reflective, critical and self-critical attitude.

Case reports, rather than a form of publication, are the result of a deep commitment of the physician to the patient and to study, which leads to determine the novelty and merit of sharing a particular clinical phenomenon, since it could be the input to deepen the knowledge in medicine (e.g. the atypical presentation of a disease, the results of a therapy, the usefulness of a diagnostic method, among others).

Based on this, when a case report is proposed, clarifying the objectives of the report must be sought. In this sense, the following fundamental questions are proposed whenever a case report is intended:

What do I want to communicate as novel or useful for Medicine? What implications does the observation that I want to report have? Does it contradict current knowledge on certain pathology? Does it expand what is currently known about this disease? Is it something anomalous, unexplained or unexpected? Does it exemplify and clarify a disease?

Based on the clarity given by the answers to these questions, exposure and discussion of the clinical case should be developed, since they are the guidelines to reach the goal, transmit a clinical observation and propose its implications.

## CLARIFYING OBJECTIVES

The first step to report a case is the result from a thorough clinical work summarized in:

- Committed, rational and systematic patient care.
- Willingness to observe.

## HOW TO REPORT A CASE

Judicious clinical practice and clear objectives are two of the pillars of case report. The third is the way how information is communi-

cated, the accuracy of the case report, which will define its usefulness for the knowledge of the disease. This, if done properly, will allow comparison with other cases or make it part of the foundation of other research methodologies through which the validity of the hypothesis of the case reported can be assessed **(5.7)**.

Also, various organizations and medical journals have realized the need to generate quality standards in the way how cases are reported. One of the most important initiatives is the development of CARE consensus and guidelines (acronym for CAsE REport), formally published in 2013 in various journals **(8)**. This guideline is accepted by Revista Case Reports and is recommended as a guideline for case reports.

With this in mind, the suitability of a clinical case report is based on three characteristics:

- Transparency
- Full descriptions
- Precision

Transparency involves ethical and epistemological commitment, by those who report,

to exposing the case fully and truthfully, including limitations, omissions and errors. This principle determines the compression of medical practice as an imperfect process, with, frequently, limited resources and proneness to error as any human activity. Similarly, understanding the imperfection of clinical practice is seen as an invitation to continuous improvement and transparent case report is an ideal strategy for this.

On the other hand, complete and accurate descriptions are necessary for the case to provide sufficient tools which help corroborating or rejecting hypotheses derived from observation **(9)**. It includes, therefore, adequate sociodemographic identification of the patient, account of symptoms and background, physical examination, reasoning and diagnostic strategies, therapeutic approach, patient monitoring and, finally, outcome of the case. In addition, the limitations of the case should be explained, discussion about it should be established, hypotheses defined and conclusions and derived lessons proposed. CARE guide presents each of these aspects summarized in the items presented in Table 2.

Table 2. CARE Checklist - 2016.

Topic	Item	Checklist item description
Title	1	The words "case report" should be in the title along with the area of focus
Keywords	2	Four to seven key words—include "case report" as one of the key words
Abstract	3a	Background: What does this case report add to the medical literature?
	3b	Case summary: chief complaint, diagnoses, interventions and outcomes
	3c	Conclusion: What is the main "take-away" lesson from this case?
Introduction	4	The current standard of care and contributions of this case—with references (1-2 paragraphs)
Timeline	5	Information from this case report organized into a timeline (table or figure)
Patient information	6a	De-identified demographic and other patient or client specific information
	6b	Chief complaint—what prompted this visit?
	6c	Relevant history including past interventions and outcomes

Physical Exam	7	Relevant physical examination findings
Diagnostic	8a	Evaluations such as surveys, laboratory testing, imaging, etc.
Assessment	8b	Diagnostic reasoning including other diagnoses considered and challenges
	8c	Consider tables or figures linking assessment, diagnoses and interventions
	8d	Prognostic characteristics where applicable
Interventions	9a	Types such as life-style recommendations, treatments, medications, surgery
	9b	Intervention administration such as dosage, frequency and duration
	9c	Note changes in intervention with explanation
	9d	Other concurrent interventions
Follow-up and outcomes	10a	Clinician assessment (and patient or client assessed outcomes when appropriate)
	10b	Important follow-up diagnostic evaluations
	10c	Assessment of intervention adherence and tolerability, including adverse events
Discussion	11a	Strengths and limitations in your approach to this case
	11b	Specify how this case report informs practice or Clinical Practice Guidelines (CPG)
	11c	How does this case report suggest a testable hypothesis?
	11d	Conclusions and rationale
Patient perspective	12	When appropriate include the assessment of the patient or client on this episode of care
Informed consent	13	Informed consent from the person who is the subject of this case report is required by most journals
Additional information	14	Acknowledgement section; Competing Interests; IRB approval when required

Source: (10).

According to this, we would like to invite our readers to conduct clinical observation and develop the capacity to be surprised which, through judicious and routine clinical practice, will allow realizing new, contradictory or unexpected phenomena that are a powerful fuel for the progress of Medicine. Then, case reports will be the log that allows communicating such observations.

Likewise, standardization of the way to report clinical cases is urgent, where transparency and accuracy allow approaching the truth in medicine for the sake of scientific accuracy and reproducibility. The CARE guide is proposed as an ideal tool for this purpose.

Finally, an invitation to enjoy this new issue of the journal is presented. We would like to

congratulate all authors for their courage and hard work. You, along with readers, are the essence of this publication.

Thank you for your contributions.

## REFERENCIAS

1. **Vandenbroucke JP.** In defense of case reports and case series. *Ann. Intern. Med.* 2001;134(4):330-4. <http://doi.org/bsnp>.
2. **Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS.** Evidence based medicine: what it is and what it isn't. *BMJ.* 1996;312(7023):71-2. <http://doi.org/bsvc5w>.
3. **Hauben M, Aronson JK.** Gold standards in pharmacovigilance: the use of definitive an-

ecdotal reports of adverse drug reactions as pure gold and high-grade ore. *Drug Saf.* 2007;30(8):645-55. <http://doi.org/d7z9vx>.

4. **Kiene H, Hamre HJ, Kienle GS.** In support of clinical case reports: a system of causality assessment. *Glob. Adv. Health Med.* 2013;2(2):64-75. <http://doi.org/bsnq>.
5. **Kaszkin-Bettag M, Hildebrandt W.** Case reports on cancer therapies: the urgent need to improve the reporting quality. *Glob. Adv. Health Med.* 2012;1(2):8-10. <http://doi.org/bsnr>.
6. **Akers KG.** New journals for publishing medical case reports. *J. Med. Libr. Assoc.* 2016;104(2):146-9. <http://doi.org/bsns>.
7. **Richason TP, Paulson SM, Lowenstein SR, Heard KJ.** Case reports describing treatments in the emergency medicine literature: missing and misleading information. *BMC Emerg. Med.* 2009;9:10. <http://doi.org/csp2p3>.
8. **Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, CARE Group.** The CARE guidelines: consensus-based clinical case reporting guideline development. *BMJ Case Rep.* 2013;7:223. <http://doi.org/bsnv>.
9. **Kane-Gill SL, Smithburger PL, Williams EA, Felton MA, Wang N, Seybert AL.** Published cases of adverse drug reactions: has the quality of reporting improved over time? *Ther. Adv. Drug Saf.* 2015;6(2):38-44. <http://doi.org/bsnw>.
10. CARE Checklist – 2016: Information for writing a case report. Portland: CARE Group; 2016 [cited 2016 Oct 15]. Available from: <https://goo.gl/necZq3>.