The value of case reports to medical science and clinical practice

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SUMMARY

The case reports are important elements in the medical literature field, being the primary source in generating hypotheses to conduct observational and experimental clinical studies, as well as for basic research. This type of study is also a very important tool for daily clinical practice, providing to physicians in their daily practice, update their knowledge, and help in solving difficult clinical problems in their patients. The case reports are part of evidence-based medicine to value the knowledge and professional medical experience.

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We currently live in a scientific context where great discoveries, especially in medicine, are not as eloquent as for example, those of the nineteenth and early twentieth century, when almost everything we know today about knowledge in the etiology of diseases, was unveiled, leaving us in the second half of the twentieth century to the present, to clarify the molecular mechanisms and possible new associations (more subtle) between exposure and disease. Thus, the case reports in great detail, mainly in the medical field and focusing on rare, unusual, new and/or unknown diseases, as well as change the natural history of a particular disease, in addition to reports on new treatments, both medical or surgical and complications associated with them, are considered useful tools in generating hypotheses that certainly induce the scientific community in the development of clinical or basic research, seeking clarification of possible cause-effect associations, as well as other relevant aspects diagnosis treatment and prognosis.

The case reports fall within the field of descriptive epidemiology or not non-analytical epidemiology [1], not focus precisely to adhere comparisons, and therefore do not enable causal relationships and, thus has mainly focused on the description of components constituting the characterization of reported case, i.e., who got sick (personal aspects - biological, social, etc.); where the disease has occurred (spatial aspect or “geographical”), when the disease was diagnosed or reported (seasonal or temporal aspects). So all case report with good

quality, the following three questions must be answered clearly: *Who? When? Where?* Obviously, the answers to such questions should be easily identified, allowing the reader to understand the report from a biological, epidemiological and socio-demographic point of view, facilitating and inciting the hypothesis formulation, triggering conducting observational studies such as cohort, case-control and cross as well as experimental studies and clinical trials, according to the nature of the case presented in the report. Clearly, for physicians who do not belong and do not work in academic institutions, but who perform activities in clinical practice, case reports represent a very useful tool of information for your profession, providing them elements that undoubtedly assist in the care their patients because by reading the details of the reports certainly update their knowledge as well as, identify the clinical details described much in common to that observed in patients [2].

Another important application area and use of case reports is that of medical education. This mode of study has important role in the training of medical students and residents of all clinical areas of medicine, and often conducting clinical sessions where intriguing case reports or even common cases are selected to be discussed comprehensively between staffs and those in training with unquestionable gains in theoretical and practical learning with more concrete and efficient results compared to only lectures [3].

Before the era of clinical trials and large observational studies, particularly cohort, case reports were the only advancement sources in all clinical areas of medicine, however, after the advent of so-called evidence-based medicine [4], in the final 1980s and early 1990s, the descriptive studies, including the case reports, have been considered by the academic community, a kind of evidence of lower hierarchy in relation to analytics studies [5]. However, even within the evidence-based medicine, currently the clinical reports again play an important role when considering the professional experience as a featured element in medical decision making, especially when considering the safety [6] of the patient and the proposed treatment, as well as the natural

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history of the disease [7]. After all, it is important for the scientific community to emphasize that considering the citation metric, the case reports are among the most cited publication types [8], so, must also for such reason, be regarded with due attention.

For all these reasons and it is no coincidence that all the major and important medical journals from all over the world, keeps in its scope the publication of case reports and case series [9]. On the other hand, has increasingly emerged specialized scientific journals in publication of cases and images related reports, which undoubtedly is a gain for all, including medical students, medical teachers, the scientific community, medical professionals, healthcare managers and patients [10].

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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