

Clinical case reporting in sports and exercise medicine

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Introduction

With the emergence of robust clinical research during this century and wide acceptance of the principles of evidence-based medicine, clinical case reports have been regarded with ambivalence.¹⁻³ It can be argued that they offer no credible evidence on the rate of clinical events, and no comparison or control group. Furthermore, they are severely limited as a way of understanding risk factors and causes of disease, or efficacy of therapeutic or preventive interventions. Despite these arguments clinicians often prefer to learn from case reports and use them as vehicles for continuing medical education.

Historically, case reports have played an important role in the medical literature, and from the 1940s to the 1970s comprised approximately 13% of articles in leading medical journals.² *The Lancet*, *New England Journal of Medicine* and *Annals of Internal Medicine* often publish clinical case reports as letters or even as original articles or through 'clinical problem solving' platforms. *The British Medical Journal* even has an electronic journal dedicated entirely to clinical case reporting (www.casereports.bmj.com/).

There are numerous reasons for the documentation of case reports (Table I). A case report can mark the beginning of a case series and eventually lead to an epidemiological study, clinical trials or intervention studies. Sometimes case reports are the only source of information on rare or interesting events; indeed, our understanding of HIV disease began with the description of a single case.⁴ Case reports can entertain and encourage clinicians to think wider and to generate a hypothesis, and are valuable as part of a comprehensive database of other case reports which can be searched when necessary.

TABLE I. Reasons for documentation of a case report

- Unusual presentation of unknown aetiology
- Unusual clinical course
- Challenging differential diagnosis
- Mistake in diagnosis or management
- Diagnostic or therapeutic side-effects
- Unusual or unexpected effect of treatment
- Description of novel technology used in diagnosis or management
- Unusual setting of therapy or care
- Description of a challenging situation related to medical ethics
- Single case 'clinical trial'
- Description of a clinical situation which cannot be reproduced for ethical reasons
- Confirmation of a rare but known entity

The opportunity presented by sports and exercise medicine

As clinicians involved in sports and exercise medicine, we work in an environment where human physiology (usually described at rest) is subjected to a stressor (exercise or sport), which can often result in injury or an abnormal clinical finding or unmask subtle disease. In addition, the health benefits of regular exercise in preventing disease have been well described. Furthermore, regular exercise is increasingly recognised as a potent therapeutic intervention in patients with chronic disease and therefore more people are becoming physically active. Sports and exercise medicine is still a relatively new discipline. Therefore there are ongoing opportunities for the description of novel clinical entities, diagnostic work-ups and management strategies in all of the abovementioned aspects of the discipline.

Diagnosis in sports and exercise medicine involves a complex art of recognising patterns of illness and injury – signs and symptoms can vary substantially from case to case. This task is made more difficult by the patient's subjective description of his or her symptoms and perceived state of health. Therefore the clinician's approach needs to be based on a combination of carefully organised analysis of these signs and symptoms, a theoretical understanding of the basis of pathology, and an understanding of the physiological demands experienced during sport or exercise.

The clinician's thoughts progress through a series of intuitions, each providing a hypothesis, to be improved upon or rejected as determined by confirmatory findings. These findings are often in the form of results from special tests or investigations. Hence, the final diagnosis is reliant on clinical experience developed during training and through professional practice. A closer analysis shows that clinical experience is based on the observation of accumulated clinical cases.

In all cases, the goal of a case report is to convey a message that interests the readers of the journal and which is useful to everyone, including future patients with the same medical condition.

Writing a case report for publication

Writing a good case report is not only the recording and studying of cases of an unusual disease or disorder, but also a reflection of the art of choosing, gathering, structuring and conveying information about relevant clinical cases. It must lead to a better understanding of a given health problem and improved clinical decision making. It should focus on the reduction of information to be gathered rather than the accumulation of large amounts of data. There are excellent reference sources available to assist aspiring authors.^{2,5-7}

A clinical case report should be structured with the following headings:

Title

There are typically two types of titles used in clinical case reporting. The first is one that directly informs the reader of the problem and the topic. The second is a 'catchy' or symbolic title that has an advertising quality to it, to entice the reader to read the complete case to understand the title.

Summary

While a summary is not required by all medical journals, this section aims to attract the prospective reader and in a brief and organised manner convey the reasons for the report, the background to the problem and the most important highlights and conclusion.

Introduction

The introduction should be brief and include the definition and context of the topic, pose a clinical question or highlight a gap that the case report can fill, and detail the objectives of the report.

Presentation of the case

This section forms the main presentation of the clinical data and describes the triggering factor of the report, clinical findings, diagnostic and therapeutic steps, evolution of the case and expected or unexpected clinical outcomes. Various components that may be included in this section of the case report are listed in Table II. Consent for publication must be obtained from the patient or, if this is not possible, the next of kin before the case is submitted.

TABLE II. Components of the presentation of the case report

- Patient identification and characteristics (age, occupation, gender, level of athlete)
- Main complaint
- Complaint history and history of possibly related present and past health problems
- Patient history (medical, surgical, personal health, family, social, occupational, alternative medicine exposure, risk factors)
- Patient's views/ideas about their problem, concerns and expectations
- Physical examination: relevant findings only
- Special investigations: laboratory, imaging or other technical results
- Differential and working diagnosis
- Immediate treatment and treatment plan
- Prognosis and patient follow-up

Discussion and conclusion

In this section of the paper, the author has some freedom to analyse the findings of the case, compare the case with other cases of interest reported in the literature, formulate a conclusion and provide a recommendation for future work. The author should also specify the contribution of the case to the existing knowledge and literature.

References

This section should be kept to a minimum and only the references required for a basic understanding of the message of the case report should be included. There should be at least one reference included that covers the specific problem under study.

Summary

Sports and exercise medicine is a relatively new and growing discipline. It is a broad discipline that encompasses a wide area of clinical medicine. The patient population undertaking physical exercise as a lifestyle choice towards good health and longevity is increasing. Sports and exercise medicine should therefore provide many interesting cases that could form an important part of the educational evidence into the future.

Many potential authors in clinical practice are not undertaking academic study or have not registered for higher degrees, yet still have a desire to share interesting clinical experiences with their colleagues. The clinical case report is an ideal format to fulfil this need.

Therefore, clinicians working in the exciting discipline of sports and exercise medicine are encouraged to contribute to *The South African Journal of Sports Medicine* and their profession by making themselves familiar with the instructions for authors and writing and submitting their interesting clinical cases.

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