Why publish on *Case Report in Emergency Surgery and Trauma (CREST)*?

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Why still case reports?

In medicine and surgery, a case report (CR) is a comprehensive or intensive analysis of a single individual or particular group, while a case series is an association of similar CRs. A CR includes an exhaustive narrative report of the symptoms, signs, diagnosis, treatment and follow-up of a patient. CRs usually describe an unusual or novel occurrence or disease and sometimes contain a literature review of other reported cases. CRs can also be professional accounts that provide feedback on clinical practice guidelines and offer a framework for early signals of effectiveness, adverse events, and costs. They can be shared for medical, scientific, or educational purposes. CRs are always peer-reviewed, like other scientific journal article types.

Types of case reports

Most CRs are among the following seven matters:¹ i) atypical or rare features of a disease; ii) findings which shed new light on the possible pathogenesis of a disease or an adverse effect; iii) an unexpected association between diseases or symptoms; iv) an unexpected event while observing or treating a patient; v) unique therapeutic approaches; vi) a positional or quantitative variation of the anatomical structures; vii) an emerging disease or condition.

Roles in research and education

A CR is generally considered a type of anecdotal and, for this reason, an unreliable evidence.²,³ Given their methodological restrictions, including the absence of statistical sampling, CRs are positioned at the lowermost of the pyramid of clinical evidence, together with case series.⁴ Nonetheless, CRs have and have had, valuable roles in medical research and evidence-based medicine.⁵ The 17% of CRs and the 33% of case series published by Lancet in 1996-1997 were followed by clinical trials.⁶ In particular, they have helped the discovery of new illnesses and adverse effects of drugs and treatments (Table 1). A CR promoted the link between the administration of thalidomide to mothers and malformations in their babies.⁷ Meanwhile, Burkitt D. first described Burkitt lymphoma in Uganda in 1958: he initially thought it was a rare sarcoma of the jaw, but shortly physicians identified it as a distinct form of non-hodgkin lymphoma.⁸ CRs have an essential part in pharmacovigilance. They can also support recognizing the clinical presentation of rare diseases as well as uncommon appearances of common disorders. CRs are commonly used in psychology to give an overview of unusual conditions. They can produce hypotheses for new studies, including possible mechanisms of disease. CRs may, furthermore, play a role in managing the personalization of treatments in clinical practice.⁹-¹²

Advocates of CRs have defined some particular benefits of this study design. CRs and case series show an extraordinary sensitivity for identifying originality and, therefore, they remain one of the origins of medical progress, providing many new ideas in medicine. While randomized clinical trials only check one variable or very few aspects of a disease/treatment, rarely reproducing the full representation of a complicated medical condition, CRs can detail many different aspects of the patient’s medical situation (e.g. patient history, physical examination, diagnosis, psychosocial aspects, follow up).¹³-¹⁵ Furthermore, because typical, unexceptional cases are less expected to be published, the use of CRs as scientific evidence must consider publication bias. Some CRs contain a broad review of the related literature (and often a systematic review of available evidence). Reports implementing this approach can be recognized by terms such as “case report and review of the literature”. CRs can moreover play a pertinent role in medical education and knowledge translation, providing a chance for case-based learning. A specific attraction of CRs is the opportunity for fast publication (compared to more widespread studies such as randomized control trials), allowing them to act as a kind of quick short communication among busy clinicians who may not have the time or resources to conduct large scale research.¹⁶
CARE: case report reporting guidelines

The quality of the scientific reporting of CRs is inconstant, and suboptimal reporting is frequent. In response to these issues, an international group of experts developed guidelines to enable transparency and extensiveness in the provision of relevant information for individual cases. The CARE (i.e., CAse REport) guidelines contain a reporting checklist (Figure 1) that is listed on the EQUATOR Network, an international initiative aimed at promoting transparent and accurate reporting to enhance the value and reliability of medical research literature. This 13-item Table 1. Famous scientific case reports.

Famous scientific case reports

<table>
<thead>
<tr>
<th>Case report</th>
<th>Description</th>
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<tbody>
<tr>
<td>Sigmund Freud</td>
<td>reported on numerous cases, including Anna O., Dora, Little Hans, Rat Man, and Wolf Man</td>
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<tr>
<td>Frederick Treves</td>
<td>reported on “The Elephant Man”</td>
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<tr>
<td>Paul Broca</td>
<td>reported on language impairment following left hemisphere lesions in the 1860s</td>
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<tr>
<td>Joseph Jules Dejerine</td>
<td>reported on a case of pure alexia</td>
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<tr>
<td>William MacIntyre</td>
<td>reported on a case of multiple myeloma (described in the 1840s)</td>
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<tr>
<td>Christiaan Barnard</td>
<td>described the world’s first heart transplant as a case report</td>
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<tr>
<td>W.G. McBride</td>
<td>in a case report first showed the link between thalidomide and malformations in babies (1961)</td>
</tr>
<tr>
<td>John Martin</td>
<td>reported the case study on Phineas Gage, the man who changed personality after having a railway spike through his head</td>
</tr>
<tr>
<td>The Morbidity and Mortality Weekly Report (MMWR) number of June 5th 1981</td>
<td>published the first case series of Pneumocystis Pneumonia</td>
</tr>
<tr>
<td>James Parkinson</td>
<td>reported a case report, which lead to the discovery of Parkinson’s disease</td>
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<tr>
<td>Case reports</td>
<td>first linked fenfluramine and dexfenfluramine with primary pulmonary hypertension, which finally lead to their withdrawal from the market</td>
</tr>
<tr>
<td>A case series</td>
<td>first reported dramatic resolution of symptoms of Escherichia coli-associated hemolytic-uremic syndrome after treatment with the monoclonal antibody Eculizumab</td>
</tr>
<tr>
<td>Burkitt D.</td>
<td>first described Burkitt lymphoma in Uganda in a case report in 1958</td>
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Figure 1. The CARE checklist. Available from: https://www.care-statement.org/checklist
checklist includes indications regarding title, keywords, abstract, introduction, patient information, clinical findings, timeline, diagnostic assessment, therapeutic interventions, follow-up and outcomes, discussion, patient perspective and informed consent. Furthermore, the CARE steering group developed a flow diagram summarizing how a clinician should collect data on the patient or fill in a chart review adhering to the CARE guidelines. The Journal of Clinical Epidemiology in 2017 published a manual for writing CRs following the CARE guidelines. Moreover, the Scientific Writing in Health and Medicine (SWIHM) created an online application (CARE-writer) to help authors to organize and format the information necessary to write systematic and transparent CRs following the CARE guidelines.

### Publishing

Numerous international journals publish CRs, but they limit their number because they negatively affect the journal’s impact factor. Nevertheless, CRs have already been often published online and a growing number of journals, most of them open-access, publish only CRs. The first was, in 2001, Grand Rounds. The first was, in 2001, Grand Rounds. The Journal of Clinical Epidemiology in 2017 published a manual for writing CRs following the CARE guidelines. Nevertheless, CRs have already been often published online and a growing number of journals, most of them open-access, publish only CRs. The first was, in 2001, Grand Rounds. The Journal of Clinical Epidemiology in 2017 published a manual for writing CRs following the CARE guidelines. The first was, in 2001, Grand Rounds. The Journal of Clinical Epidemiology in 2017 published a manual for writing CRs following the CARE guidelines.

**Why CREST (Case Reports in Emergency Surgery and Trauma)?**

Acute Care Surgery & Trauma (ACS&T) is a quite recently developed field of surgery that has taken the principles of trauma care (organized teams, evidence-based processes and procedures, and continuous quality improvement) and applied them to patients with other urgent, time-sensitive surgical conditions. Many of the above considerations are valid for the area concerning ACS&T. This field makes it very difficult to produce evidence of the highest levels, so CRs can be very useful, but they are often difficult to publish.

### References