

Reviewer Recommendations

How to write a case report in anaesthesia and peri-operative medicine

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Case reports present the authors' perspective on a particular clinical episode, typically involving an innovation, error, complication or challenging case [1,2]. Whilst the learning that arises from case reports is situated in the circumstances of that case, there are often educational messages that can be applied in similar situations [2]. This makes case reports particularly important in alerting the anaesthetic community to potential threats to patient safety and descriptions of new phenomena. For example, case reports had an invaluable role in the COVID-19 pandemic by allowing colleagues to share learning about the management of a hitherto unknown disease [3]. Furthermore, case reports provide an opportunity to gain insights into patient and carer experiences, which are seldom reported in detail in other types of research [4].

Anaesthesia Reports is a journal of the Association of Anaesthetists, published by Wiley. Launched in 2019, it provides a unique forum for case reports, short case series, multimedia and educational articles relating to anaesthesia, peri-operative medicine, critical care and pain therapy [5]. In this article, we draw on our experience as Editors of *Anaesthesia Reports* to explain what reviewers and editors seek when considering a case report submission and offer advice about how to ensure the clear communication of two key elements that all case reports should contain: novelty and educational impact.

How to identify an appropriate case

Cases which stimulate discussion, require a unique approach to management, or provide a basis for reflection may make a good basis for a published report. Both successes and failures can form a valuable basis for reflection, and it is often useful to share approaches to rare and interesting cases with colleagues.

Novelty is an important element of case reports because it engages the reader and allows them to learn from the unique experiences of others [1,6,7]. Whilst every case is unique in some sense, authors must articulate why their case is sufficiently different from those already in the literature (or, simply, routine practice) to justify publication; this requires a focused review of similar published cases. Although case reports relating to a new drug or disease are obviously novel [3], elements of novelty can also arise from the particular circumstances, solutions, combinations of comorbidity or human factors within a case. For example, a recent multimedia report by Ward and Allam discussed the case of a patient who was found to have a 'Mallampati class zero' (epiglottis visible on mouth opening) airway assessment. Though unusual, this has been reported previously in several papers

and so would not, in itself, have justified publication [8]. However, the novelty in this case also related to the successful use of a supraglottic airway device, despite the potential risk of down-folding of the epiglottis, which had not been reported before. This added an educational element to the report about both a potential complication and a successful airway management technique [8].

The educational impact of a case report relates to its potential to influence the practice, or enhance the knowledge, of the reader. Novel topics may be inherently educational simply because they have not been encountered before. However, in some cases a topic can appear so obscure or specific that its relevance to others is limited. Therefore, authors should always explain how they believe that the experiences reported in their work may impact the practice of others. This usually involves relating the subject of the report to the existing literature and reflecting on the actions taken, including how the experience will change the authors' future practice and what they would do differently if they encountered the same scenario again.

Images, diagrams and tables may greatly enhance the educational value of a report. Clinical images (e.g. photographs, radiographs, videos or echocardiograms) are a particularly powerful addition because they bring the case to life for the reader and provide an element of description that is difficult to achieve in written prose. Authors should, however, take particular care to maintain patient anonymity and dignity within a clinical image. This includes obscuring the patient's eyes in any photographs, deleting any patient identifiable data from radiographic images, and ensuring that patients have approved any photographic images for publication.

How to maintain high ethical standards

Case reports create a written and published record of an aspect of a patient's medical journey or condition. As such, obtaining written evidence of informed consent is a cornerstone of all case reports. All manuscripts containing specific patient data must be published with the written consent of the patient, or if the patient is unable to provide informed consent themselves, the written assent of a consultee, parent or legal guardian, as appropriate. This is not only important from an ethical perspective, but also from a legal one. Publication of any personal information about an identifiable living patient requires the explicit consent of the patient or guardian under the UK's data protection legislation [9]. If the patient is deceased, the Data Protection Act does not apply, but the authors must seek permission from a relative (ideally the next of kin).

When obtaining consent for a case report, authors must apply the principles of valid consent: the author must explain what case report publication involves and the patient must have mental capacity (i.e. be able to understand, weigh up and retain the information and communicate their decision). Consent must be granted voluntarily, without coercion or duress. We acknowledge that there are often barriers to obtaining informed consent [10], particularly in reports relating to critical illness and the peri-operative period; however, authors must ensure that every effort is made to obtain consent from the patient. If the patient does not have capacity to consent then it may be appropriate to obtain the assent of a consultee (e.g. the next of kin) [11]. However, if the patient regains capacity, for example following a period of sedation while critically ill, we recommend that patient consent is obtained subsequently. Authors should ensure that the consent process occurs in the patient's own language, which may require the use of an interpreter.

How to structure a case report

Case reports should be concise, accessible and clearly communicated. They should set the case in context, then provide an appropriate balance between the description of the case, and reflection on the key learning points, with the latter being an important opportunity to make the report relevant to readers. As such, we recommend that the introduction be relatively brief, aiming to achieve a focused explanation of why the report is important. The report should strike a balance between detail and brevity, the guiding principle being that the reader should be able to understand what was done and why. More text should be allowed for the discussion, to permit in-depth analysis and reflection on the details of the case. The specific content of each section will depend on the subject of the report, but as a guide we recommend using the items suggested in the Anaesthesia Case Report (ACRE) checklist for cases in the peri-operative setting (Table 1) [1]. This is usually more appropriate than general case report checklists such as the Case Report (CARE) guidelines because these focus on making diagnoses [6,7], whilst peri-operative case reports tend to focus on overcoming challenges [1]. The title and summary/abstract should be finalised once the rest of the report is written, as they need to represent the circumstances of the case and core messages accurately and concisely. Titles can be challenging to write; our preference is that they are succinct but with sufficient information about the case to allow a reader to immediately understand what the report is about. We do not recommend enigmatic titles; though they may pique the interest of the casual reader, they are unhelpful to those who are searching for information on a particular subject.

How to maximise value for the reader

Reflection is particularly powerful in cases where things did not go according to plan, such as the account by Davidson et al. of an upper airway obstruction due to arteriovenous malformation rupture in a patient with neurofibromatosis, in which an emergency front of neck airway (eFONA) was required following failed intubation of the trachea [12]. In the discussion, the authors reflect on how early examination findings could have prompted a different airway management strategy, such as awake fiberoptic tracheal intubation or awake tracheostomy. They go on to consider how this case might inform training in teamwork, communication and technical skills. Numerous guides for reflective writing are available, but the structure suggested by Gibbs (Fig. 1) provides a useful framework [13].

Patient perspectives are a vital and under-reported aspect of anaesthesia and peri-operative care. Case reports offer a unique opportunity for patients to provide feedback in their own words on the care they received. There are two ways to achieve this: patients can act as authors, either alone or in collaboration with the healthcare professionals involved in their care; or the patient can provide some text which can be included in the report as an excerpt [e.g. 14,15]. Patient authorship arguably makes the report more powerful because it places the patient perspective at the heart of the manuscript, but patient authors should weigh up the potential benefits of this approach against the possible undesirable impacts of authorship including: publicity that the article may attract; loss of confidentiality; and requirement to be accountable for the content of the paper. To date, the patient co-authors of papers published in *Anaesthesia Reports* have been healthcare professionals [16–18]. However, there is no expectation that patients who are healthcare professionals should be named co-authors as they have the same right to confidentiality as everyone else [19]. Whatever approach is used must be acceptable to the patient, and authors should consider how best to ensure that the patient is able to present an authentic version of their experiences; for example, by taking steps to moderate the hierarchies that exist between healthcare professionals and patients.

Though it is typical for case reports of anaesthesia, peri-operative practice, critical care and pain therapy to be written by physicians working in those fields, reports written by healthcare providers of all professional backgrounds provide a vital addition to the literature. Furthermore, these areas of practice are notable for their close ties to other specialties and the involvement of a broad multidisciplinary team. As such, it is often advantageous to work with a diverse authorship group. A case relating to airway management may, for example, be enriched by including insights from anaesthetic assistants and surgeons as well as anaesthesia providers, allowing the reader to appreciate different perspectives on a problem [e.g. 20].

Case reports offer a unique opportunity to share a case that has provided a challenge, learning point or novel finding. They afford the authors the privilege to tell a patient's story for the benefit of continued learning, which in turn may benefit future patients. Case reports should provide both novelty and educational value for the reader, in a concise and accessible format. The incorporation of the patient voice into a case report adds a further dimension to our understanding of the impacts of care. Prior to embarking on the composition of a report, it is very important to obtain the informed consent of the patient in question. With careful attention to these points, authors should be able to write a novel, educational report which reflects the key learning points from an interesting case.

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References

1. Shelton CL, Klein AA, Bailey CR, El-Boghdadly K. The Anaesthesia Case Report (ACRE) checklist: a tool to promote high-quality reporting of cases in peri-operative practice. *Anaesthesia* 2021; **76**: 1077-81.
2. Charlesworth M, Daly Guris RJ, Dalay S. Novel presentations, rare complications and educational content: cases in clinical practice. *Anaesthesia Reports* 2020; **8**: 73-5.
3. Kearsley R, Guris RD, Miles LF, Shelton CL. Case reports in the COVID-19 pandemic: first responders to an emergency in evidence-based medicine. *Anaesthesia Reports* 2021; **9**: 1-7.
4. Greenhalgh T, Snow R, Ryan S, Rees S, Salisbury H. Six 'biases' against patients and carers in evidence-based medicine. *BMC Medicine* 2015; **13**: 200.
5. Shelton C, El-Boghdadly K. *Anaesthesia Reports*: looking back at its first two years, and towards the future! *Anaesthesia News* 2021; **409**: 25.
6. Gagnier JJ, Kienle G, Altman DG, et al. The CARE guidelines: consensus-based clinical case reporting guideline development. *British Medical Journal Case Reports* 2013; **2013**: bcr2013201554.
7. Garg R, Lakhan SE, Dhanasekaran AK. How to review a case report. *Journal of Medical Case Reports* 2016; **10**: 88.
8. Ward PA, Allam J. Supraglottic airway insertion in a patient with a 'Mallampati class zero' airway. *Anaesthesia Reports* 2022; **10**: e12151.
9. Data Protection Act 2018. <https://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> (accessed 02/04/2022).
10. Longo DL, Grady C. Enduring and emerging challenges of informed consent. *New England Journal of Medicine* 2015; **372**: 855-62.
11. Mental Capacity Act 2005. <https://www.legislation.gov.uk/ukpga/2005/9/contents> (accessed 10/05/2022).
12. Davidson A, Beddoes P, Patel J, Hunningher A. Rapid upper airway obstruction after arteriovenous malformation rupture in a patient with neurofibromatosis. *Anaesthesia Reports* 2021; **9**: e12132.
13. Gibbs G. *Learning by Doing: A Guide to Teaching and Learning Methods*. Oxford: Oxford Polytechnic, 1998.
14. Tan YPA, Alexander PDG, Knowles S. Acute cardiotoxicity following 'poppy seed tea' consumption. *Anaesthesia Reports* 2021; **9**: e12130.
15. Attard Cortis P, Spiteri D. A patient-centred approach to sequential elective caesarean section and total thyroidectomy. *Anaesthesia Reports* 2021; **9**: 118-9.

16. Ramachandran S. A junior doctor's experience of critical illness: from treating patients to becoming a patient with COVID-19. *Anaesthesia Reports* 2020; **8**: 59-62.
17. Pearson F, Chiam P. Local anaesthetic toxicity during an awake tracheal intubation course. *Anaesthesia Reports* 2020; **8**: 6-9.
18. Gupta A. COVID-19 and extracorporeal membrane oxygenation: experiences as a patient, general practitioner, wife and mother. *Anaesthesia Reports* 2021; **9**: 101-5.
19. Robbins LV. The expert novice – living and working with malignant hyperthermia. *Anaesthesia Reports* 2020; **8**: 148-51.
20. Harper S, Robinson M, Manning G, Jones A, Hobson J, Shelton CL. Management of tracheostomy-related tracheomegaly in a patient with COVID-19 pneumonitis. *Anaesthesia Reports* 2020; **8**: e12076

Table 1. Summary of the 12-item Anaesthesia Case Report (ACRE) checklist. For full description see Shelton et al [1].

The narrative: A case report tells a story in a narrative format that includes: clinical context/challenges; assessment; pre-operative optimisation; anaesthetic interventions; critical incidents; outcomes; and follow-up. The narrative should include a discussion of the rationale for any conclusions and any take-away messages.

Content should include:

1. Title: focused in terms of context, clinical challenges and intervention.
 2. Keywords: two to five key words that identify topics in this case report.
 3. Summary including a brief introduction, summary of the report, and take-home messages for readers.
 4. Introduction: a brief background, and explanation of why the case is novel and/or educational.
 5. Focused patient and contextual information including information about the patient, procedure/situation, and patient's concerns.
 6. Assessment, optimisation and consent including assessment methods, clinical challenges identified, optimisation and management plan.
 7. Interventions: with a focus on any way in which 'standard care' was altered, and sufficient detail to allow the reader to understand what was done.
 8. Adverse/critical events (if applicable), including a description of events, management and any human factors involved.
 9. Follow-up and outcomes: from both clinician and patient perspectives.
 10. Discussion including reflection on the care provided, links to existing literature, and explanation of the learning points for readers.
 11. Patient/carer perspective including a description of the patient's experiences, and information that may be useful to other patients in similar circumstances.
 12. Acknowledgements: with reference to consent, assistance and any competing interests.
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Figure 1. A graphical representation of Gibbs' reflective learning cycle [13].