



# Revista Colombiana de Anestesiología

## Colombian Journal of Anesthesiology

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### Editorial

## Importance of case reports in anaesthesia<sup>☆</sup>



## Importancia de los reportes de caso en anestesiología

David A. Rincón-Valenzuela<sup>a,\*</sup>, Ricardo Navarro-Vargas<sup>b</sup>, Javier Eslava-Schmalbach<sup>c</sup>

<sup>a</sup> MD, MSc, Professor of Anaesthesia, Facultad de Medicina, Universidad Nacional de Colombia; Anaesthetist, Clínica Universitaria Colombia; Member of the Outcomes Research Consortium. Bogotá D.C., Colombia

<sup>b</sup> MD, Professor of Anaesthesia, Facultad de Medicina, Universidad Nacional de Colombia. Bogotá D.C., Colombia

<sup>c</sup> MD, MSc, PhD, Professor, Facultad de Medicina, Universidad Nacional de Colombia. Manager Centro de Desarrollo Tecnológico, Sociedad Colombiana de Anestesiología y Reanimación, S.C.A.R.E., Bogotá D.C., Colombia

### Definition

A case (from the Latin *casus*) is defined as something that occurs (occurrence), an event or happening.<sup>1</sup> According to the dictionary of the Royal Spanish Academy, to report is the action of conveying, communicating or giving notice.<sup>2</sup> Although the case could be assimilated to the individual or patient, the term refers in fact to the disease or the clinical condition at hand.<sup>1</sup> Case reports present clinical observations in a form that is particular to healthcare-related sciences.<sup>3</sup> More specifically, they are a formal summary of a patient and his/her disease, including the presence or absence of signs and symptoms, diagnostic tests, treatment and outcomes.<sup>4</sup>

From the methodological point of view, reports and case series may be considered observational and descriptive studies.<sup>5</sup> Traditionally, case reports and case series have been mixed indiscriminately in the literature. Articles categorized as case series have been published with only one patient reported, and case reports have been published with more than five patients described.<sup>6</sup> Based on statistical, epidemiological and clinical criteria, five has been recently defined as the maximum number of patients that must be described in a

case report; consequently, six or more patients described are considered a case series.<sup>7</sup>

### History

In the history of medicine, case reports and case series have been an integral part of the biomedical literature. Case reports date back to 1600 B.C., in ancient Egypt.<sup>8</sup> Similar narrative formats were found in Hippocratic manuscripts written circa 400 B.C.<sup>9</sup> Sir William Osler (1849–1919), considered the father of modern medicine, believed that physicians had to keep detailed records of unusual situations in their clinical practice and make them public in a short and concise form.<sup>8</sup>

In our specialty, the first case of general anaesthesia with ether in 1846 was documented in a case report published by Bigelow.<sup>10</sup> Up to this date, this case report may be considered as one of the most important in the history of medicine.<sup>11</sup> Table 1 summarizes some salient case reports in the history of anaesthesiology.

Since the 1940s, with the emergence of experimental designs followed by the idea and development of evidence-based medicine, great emphasis has been placed

<sup>☆</sup> Please cite this article as: Rincón-Valenzuela DA, Navarro-Vargas R, Eslava-Schmalbach J. Importancia de los reportes de caso en anestesiología. Rev Colomb Anestesiolog. 2016;44:1-4.

\* Corresponding author: Ciudad Universitaria. Facultad de Medicina. Universidad Nacional de Colombia. Calle 45 N. 30- 03. Bogotá D. C., Colombia. Teléfono +57 1 3165000.

E-mail address: [darinconv@unal.edu.co](mailto:darinconv@unal.edu.co) (D.A. Rincón-Valenzuela).

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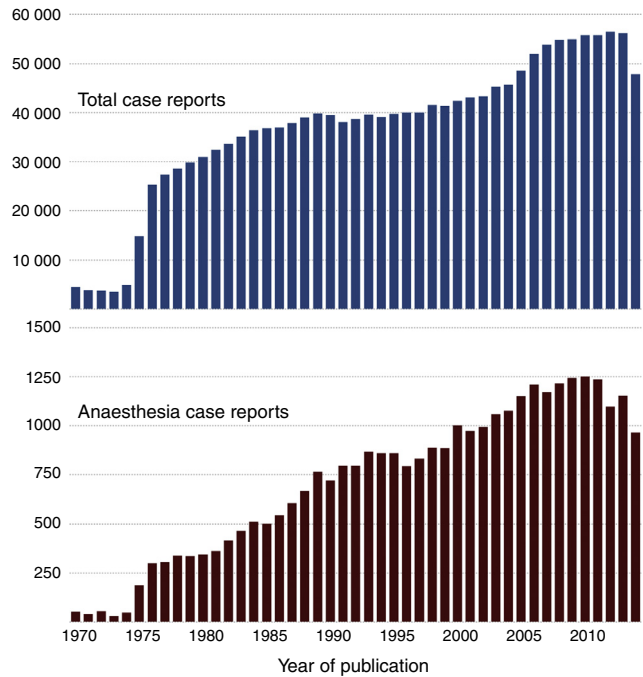
**Table 1 – Classic case reports and case series in anaesthesiology.**

Year and author	Reason for the report	Reference
1846 Bigelow	First general anaesthesia with ether (Dr William Morton, October 16, 1846)	10
1847 Simpson	General anaesthesia with chloroform	12
1848 Anonymous	Death attributable to general anaesthesia with chloroform in Hannah Greener, a 15-year-old patient taken to a minor procedure	13
1899 Bier	Effect of the intrathecal cocaine injection, including the description of post dural puncture headache	14
1921 Pagés	Epidural anaesthesia	15
1946 Mendelson	Pulmonary aspiration syndrome in obstetric patients	16
1950 Winterbottom	Intraoperative awakening	17
1960–62 Denborough	Malignant hyperthermia	18,19
1963 Brody	Halothane-related hepatitis	20
1975 Harrison	Successful treatment of malignant hyperthermia with dantrolene	21

Source: Authors.

on quantitative studies with large sample sizes. Experimental trials are at the top of the hierarchy of clinical evidence, while case reports are lower down in the same classification.<sup>22</sup> On the other hand, journals that publish studies with higher levels of evidence gain more prestige, and these studies are cited a larger number of times, giving a favourable shift to the impact factor. Case reports are usually cited less compared to prospective observational studies and clinical trials.<sup>23</sup> For a journal, this means that publishing case reports might have a potentially deleterious effect on the impact factor.<sup>24</sup> In the 1970s and 1980s, this gave rise to the so-called marginalization of case reports.<sup>1</sup>

However, towards the end of the past century, case reports gained new popularity in the biomedical literature.<sup>1</sup> This phenomenon has been attributed mainly to three things, among others. First, in the hierarchy of evidence-based medicine, the single-case research methodology (trials with an N of 1) gained traction.<sup>25</sup> Second, in 1995, the Lancet introduced a section on peer reviewed case reports limited to 600 words, addressed mainly to physicians in training, under the premise that this group of practitioners have a more intense clinical exposure in terms of the number of patients compared to their faculty, and this may represent an important source of case reports.<sup>26</sup> And third, in 1998, the BMJ (originally the British Medical Journal) introduced a new type of article, i.e., evidence-based case report, in order to improve reader skills in terms of the application of the clinical evidence.<sup>27</sup>

**Fig. 1 – Case reports indexed in MEDLINE.**

Source: Taken from [www.pubmed.com](http://www.pubmed.com) (case reports [Publication Type]).

### Current situation of case reports

Rarity by itself is no justification to report a case. Reported cases must contribute to knowledge creation and must give rise to hypotheses and research questions to be solved in subsequent clinical research; they must contribute to the information on known diseases, and to their diagnosis or treatment; and they must always accomplish a clear learning objective for the readers.<sup>28–30</sup>

Up to this date, the number of case reports published continues to grow, and close to 1000 case reports (2%) of the 50 thousand indexed in MEDLINE every year relate to anaesthesiology (Fig. 1). In the Colombian Journal of Anaesthesia (*Revista Colombiana de Anestesiología*), close to 25% of all articles published are case reports.<sup>31</sup>

Considering that biomedical journals find themselves at a cross-roads at the present time because they need to respond to the irrefutable importance and the need for case reports on the one hand,<sup>32</sup> and strive to increase their own impact factor on the other, editorial committees have defined more stringent criteria in terms of quality, novelty, exceptional interest, brevity and relevance of a case report for publication.<sup>33</sup> Indeed, the recent CARE declaration (from CAsE REport) stated the guidelines that must be followed by all manuscripts of this type.<sup>3</sup>

Along these same lines, clearly recognizing the importance of case reports in anaesthesia, very prestigious journals have made the decision of transferring case reports<sup>24,34</sup> from their core publications to new journals exclusively devoted to case reports.<sup>35</sup>

Consistent with all of the above, the Colombian Journal of Anaesthesia recently adhered to the CARE declaration guidelines in order to move towards the standardized format in which case reports are published.<sup>36</sup> Moreover, as proof of the journal's commitment regarding the importance of case reports as a valid strategy for scientific dissemination, this issue includes six case reports<sup>37-41</sup> and one case series.<sup>42</sup> They were all subjected to a peer review process, they adhere most certainly to modern writing standards, and they will contribute to the education objectives that readers expect from these types of primary studies.

## Funding

None.

## Conflict of interest

None known.

## REFERENCES

- Nissen T, Wynn R. The recent history of the clinical case report: a narrative review. *JRSM Short Rep.* 2012;3:87.
- Real Academia Española. Reportar [internet]. Diccionario de la lengua española; 2015. Available at <http://dle.rae.es/?w=reportar&o=h> [accessed 05.11.15].
- Gagnier JJ, Kienle G, Altman DG, Moher D, Sox H, Riley D, et al. The CARE guidelines: consensus-based clinical case report guideline development. *J Clin Epidemiol.* 2014;67:46-51.
- Peh WCG, Ng KH. Writing a case report. *Singapore Med J.* 2010;51:10-3.
- Sessler DI, Imrey PB. Clinical research methodology, 2: observational clinical research. *Anesth Analg.* 2015;121:1043-51.
- Abu-Zidan FM, Abbas AK, Hefny AI. Clinical "case series": a concept analysis. *Afr Health Sci.* 2013;12:557-62.
- Esene IN, Kotb A, ElHusseiny H. Five is the maximum sample size for case reports: statistical justification, epidemiologic rationale, and clinical importance. *World Neurosurg.* 2014;82:e659-65.
- Cabán-Martínez AJ, Beltrán WFG. Advancing medicine one research note at a time: the educational value in clinical case reports. *BMC Res Notes.* 2012;5:293.
- Nissen T, Wynn R. The history of the case report: a selective review. *JRSM Open.* 2014;5:1-5.
- Bigelow HJ. Insensibility during surgical operations produced by inhalation. *Boston Med Surg J.* 1846;35:309-17.
- Buckley K. The most important article in NEJM history. *Now@NEJM*; 2012. Available at <http://blogs.nejm.org/now/index.php/the-most-important-article-in-nejm-history/2012/11/01/> [accessed 05.11.15].
- Simpson JY. Discovery of a new anaesthetic agent more efficient than sulphuric aether. *Prov Med Surg J.* 1847;11: 656-8.
- Anónimo. Fatal application of chloroform. *Lancet.* 1848;51:161-2.
- Bier A. Versuche über cocainisierung des rückenmarkes. *Dtsch Z Chir.* 1899;51:361-9.
- Pagés F. Anestesia metamérica. *Rev Esp Cirug.* 1921;3:3-30.
- Mendelson CL. The aspiration of stomach contents into the lungs during obstetric anesthesia. *Am J Obstet Gynecol.* 1946;52:191-205.
- Winterbottom EH. Insufficient anaesthesia. *Br Med J.* 1950;1:247.
- Denborough MA, Lovell RRH. Anaesthetic deaths in a family. *Lancet.* 1960;276:45.
- Denborough MA, Forster JF, Lovell RR, Maplestone PA, Villiers JD. Anaesthetic deaths in a family. *Br J Anaesth.* 1962;34: 395-6.
- Brody GL, Sweet RB. Halothane anesthesia as a possible cause of massive hepatic necrosis. *Anesthesiology.* 1963;24:29-37.
- Harrison GG. Control of the malignant hyperpyrexia syndrome in MHS swine by dantrolene sodium. *Br J Anaesth.* 1975;47:62-5.
- Sessler DI, Imrey PB. Clinical Research methodology, 1: study designs and methodologic sources of error. *Anesth Analg.* 2015;121:1034-42.
- Patsopoulos NA, Analatos AA, Ioannidis JPA. Relative citation impact of various study designs in the health sciences. *JAMA.* 2005;293:2362-6.
- Shafer SL. Anesthesia and analgesia case reports. *Anesth Analg.* 2013;116:513-4.
- Guyatt G, Sackett D, Adachi J, Roberts R, Chong J, Rosenbloom D, et al. A clinician's guide for conducting randomized trials in individual patients. *CMAJ.* 1988;139:497-503.
- Bignall J, Horton R. Learning from stories - the Lancet's case reports. *Lancet.* 1995;346:1246.
- Godlee F. Applying research evidence to individual patients, evidence based case reports will help. *BMJ.* 1998;316:1621-2.
- Fraser SW, Greenhalgh T. Coping with complexity: educating for capability. *BMJ.* 2001;323:799-803.
- Jalalian M. Why publish a medical case report? *Electron Physician.* 2014;6:786-7.
- Chilkoti G, Mohta M, Wadhwa R, Saxena AK. Problem-based learning research in anesthesia teaching: current status and future perspective. *Anesthesiol Res Pract.* 2014;2014:1-7.
- Índice por secciones. *Revista Colombiana de Anestesiología*; 2015. Available at <http://www.revcolanest.com.co/es/archivo/indice-secciones/> [accessed 05.11.15].
- Rosselli D, Otero A. The case report is far from dead. *Lancet.* 2002;359:84.
- Agha R, Rosin RD. Time for a new approach to case reports. *Int J Surg.* 2010;8:330-2.
- Eisenach JC. Case reports are leaving anesthesia, but not the specialty. *Anesthesiology.* 2013;118:479-80.
- Saidman LJ. Welcome to A&A case reports. *A&A Case Rep.* 2013;1:1.
- Eslava-Schmalbach J, Gómez-Duarte OG. La Revista Colombiana de Anestesiología (RCA) acoge la Declaración de transparencia y lineamientos para publicación de artículos, entre ellos CARE, para reporte de caso. *Rev Colomb Anestesiología.* 2014;42:4-8.
- Soto-Mesa D, Herrera-Soto A, Bermejo-Álvarez MA, Arguelles-Tamargo L. Hematoma retroperitoneal tras punción lumbar diagnóstica. Caso clínico. *Rev Colomb Anestesiología.* 2016;44:44-7.
- Acosta-Martínez J, Guerrero-Domínguez R, López-Herrera-Rodríguez D, García-Santigosa M, Sánchez-Carrillo F, Marenco de la Fuente ML. Displasia cefaloescelética (síndrome de Taybi-Linder): presentación de un caso y consideraciones anestésicas. *Rev Colomb Anestesiología.* 2016;44:40-3.
- Guerrero-Domínguez R, López-Herrera-Rodríguez D, Beato-López FJ, Jiménez I. Manejo hemodinámico mediante monitor no invasivo de gasto cardíaco para craneotomía urgente en el síndrome X frágil: reporte de caso. *Rev Colomb Anestesiología.* 2016;44:48-51.

40. Sanabria C, Vendrell M. Cardiomiopatía severa secundaria a feocromocitoma: utilidad del sulfato de magnesio, Reporte de un caso. Rev Colomb Anestesiología. 2016;44:58-62.
41. Laverde-Sabogal CE, Garnica-Rosas LM, Correa-Gozález N. Informe de caso sobre cardiomiopatía periparto: rara, desconocida y potencialmente fatal. Rev Colomb Anestesiología. 2016;44:63-8.
42. López-Ramos JM, Gómez-Sainz JJ, Manzano-Canalechevarría A, Aguilera-Celorrio L. Sevoflurano como coadyuvante en la sedación durante ventilación mecánica en pacientes médicos de unidad de cuidados intensivos: resultados preliminares en una serie de casos. Rev Colomb Anestesiología. 2016;44:52-7.