Editorial

Complications—A New Open-Access Journal for Improving Our Understanding of Prevention and Management of Surgical, Interventional and Anesthesiologic Complications and Adverse Events

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Abstract: The reporting of surgical, interventional, and anesthesiologic complications is essential for improving the quality of healthcare delivery and for standardizing and reproducing outcomes data. To address underlying issues in the reporting of complications and adverse events, it may be necessary to provide education and training, establish standardized definitions and reporting requirements, and create incentives for healthcare providers to report complications. Complications, a new international peer-reviewed open access journal, aims to provide best practice and expert opinion recommendations on the prevention, diagnosis, pathogenesis, and management of complications in basic, translational, and clinical research, as well as epidemiology. The journal invites authors to address four components of perioperative adverse events: assessment, reporting, analysis of anticipatable factors, and management. The usability and practical implications of this information can have significant implications for academic and clinical practice. The prioritization of the assessment and reporting of adverse events to standardize their management and improve the understanding of the impact of these events on patients' peri-operative course.

Keywords: adverse events; complication; intraoperative complications; postoperative complications; perioperative complications; surgery; anesthesiology; interventional cardiology; interventional radiology

Negative outcomes in medical research, such as adverse events, are vital for a comprehensive understanding of treatment effectiveness [1]. Identifying these outcomes is key to pinpointing potential safety issues and areas for enhancement, which are critical for patient care [2].

This commitment to patient safety and quality improvement is significant for maintaining the integrity of the medical profession and fostering trust in the healthcare system [3–14]. These practices are underpinned by the principle of nonmaleficence, which requires prioritizing patient well-being and minimizing risks [15].

Complications and adverse events need to be reinterpreted; they should cease to be seen as a stigma. Recognizing them as physiological and an integral part of the learning process, particularly in surgical fields [15,16], can shift perspectives and improve practice.

A recent surge in publications regarding complications and adverse events may be attributed to an increasing emphasis on patient safety, as well as technological advancements and standardization of criteria for collecting, grading, and reporting these events. This standardization facilitates the study of complications and pattern identification (Figure 1).

However, standardizing the collection, grading, and reporting of complications comes with challenges [17–26]. Factors contributing to this include lack of awareness, time constraints, fear of liability, absence of standardized definitions, and lack of incentives [16].

To address these challenges, it is crucial to encourage education and training on reporting, standardize definitions and requirements, establish incentives, and create a peer-reviewed resource for this information.

Complications (ISSN 2813-4966) [27] is an international, peer-reviewed, open-access journal that focuses on the prevention, diagnosis, etiology, and management of complications in all aspects of basic, translational, and clinical research, as well as epidemiology. The journal seeks to offer best practices and expert experience, and recommendations on intra-operative and post-operative adverse events.
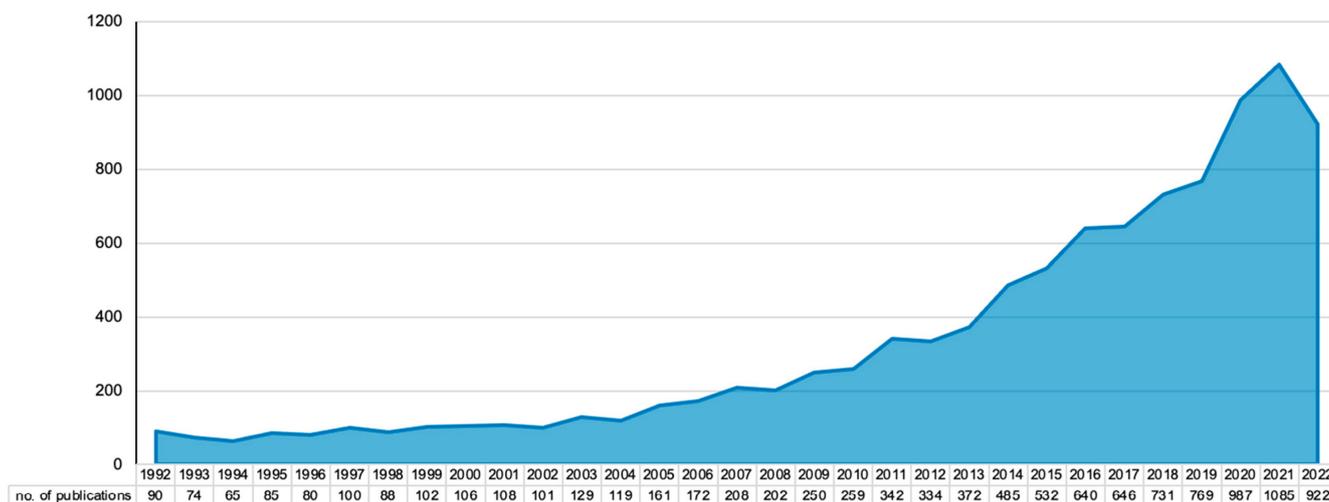

no. of publications	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
	90	74	65	85	80	100	88	102	106	108	101	129	119	161	172	208	202	250	259	342	334	372	485	532	640	646	731	769	987	1085	922

Figure 1. Trends over time of publications on Complications and Adverse Events from Web of Science (Access 20 December 2022).

Given the rising demand and cost of healthcare, the efficacy of its delivery is a central concern for policymakers. Quality metrics, often based on standardized and replicable outcome data, serve as key gauges of this efficacy. These metrics influence hospital training, profit margins, and insurance payouts, thereby shaping healthcare cost and quality. To address this, the journal Complications offers expert guidance on managing intra-operative and post-operative adverse events.

Authors are urged to explore four aspects of perioperative adverse events: assessment, grading, reporting, analysis of anticipatory factors (including patient, disease, and surgical features), and management. The practical relevance of this information, which could significantly impact academia and clinical practice, is highly valued.

To enhance quality and training, editors and reviewers should recommend Adverse events outcome reporting and documentation. Choosing the correct reporting tool is crucial to avoid data inaccuracies, and focus on evaluating and documenting adverse events is needed to standardize management and understand these events' true impact on patients' perioperative trajectory.

Conflicts of Interest: The authors declare no conflict of interest.

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Short Biography of Author

Dr. Giovanni E. Cacciamani is a urologic surgeon and surgeon-scientist who is an assistant professor of urology and radiology at the Department of Urology at the University of Southern California (USC) and the co-director of the Artificial Intelligence Center for Surgical and Clinical Application in Urology Dr. Cacciamani earned his medical degree and master of science in medicine and surgery from the University of Verona. He completed a urology residency at the "Confortini" Hospital at the University of Verona, and a minimally invasive surgery research fellowship at USC. Dr. Cacciamani's main areas of interest are translational research on complications assessment and patient safety, and the use of artificial intelligence in healthcare, with a particular focus on using machine learning to identify radiomics features that can predict pathology from imaging, use of AI for improving surgical performance and detect predictors of recurrence. He is also the vice-chair of the Research Council at the Department of Urology at USC. Dr. Cacciamani has received several international competitive grants and is the chair and head-lab of the Intraoperative Complication Assessment and Reporting with Universal Standards (ICARUS) Global Surgical Collaboration, a cross-specialty, multi-institution initiative that aims to improve the assessment, collection, grading, and reporting of intraoperative adverse events with the ultimate goal of improving patient safety. He has published 250 articles in international peer-reviewed journals, several Prospero Protocols from the University of York, 15 book chapters, and more than 200 abstracts at national and international meetings. In July 2020, he received the 10-year National Scientific Qualification for associate professorship (clinical and research from the Italian Ministry of University and Research. In 2021, Cacciamani received the "Matula Award 2021" for the best Italian urologist under 40 and was named "Citizen of the Year 2021" in Verona in the healthcare category. Cacciamani is a member of 11 professional societies in the urological field and is the chairman of the Young Academic Urology Working Party of the European Association of Urology in Uro-Technology (2021-present). He is also a board member of the European Association of Urology Research Foundation and the European Society of urologic Technology. In 2021, Dr. Cacciamani was appointed as the editor-in-chief of Complications.