Reporting guidelines for manuscripts on tumor prognosis

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Keywords

While veterinary medicine has been around for millennia, veterinary oncology is a relatively recent discipline that started to emerge in the 1960s.[1] It has blossomed over the decades since, leading to the development of subspecialties, including medical oncology, radiation oncology, and surgical oncology. These active areas of interest in veterinary medicine have resulted in productive research and a flood of published papers on prognostic markers that guide current practices in clinical oncology and surgical pathology. Unfortunately, without standardized guidelines for reporting of these studies, many of these papers are missing the necessary information to allow (1) replication of the study methods and confirmation of the results by others, (2) comparison with other studies, (3) proper evaluation of the accuracy of the conclusions, or (4) assessment of the applicability of the studied marker(s) to prognosis in routine diagnostic settings.

Potential problems with studies on prognostic markers include study population bias, poor study design, nonreproducible or incorrect assay methods, and incorrect statistical analysis. For example, studies in veterinary oncology are often based on cases seen at referral institutions or universities, which may lead to a bias toward more severe disease and owners willing to undertake advanced and prolonged treatments, resulting in skewed data that might not be applicable to primary practice cases. Other common issues include failure to measure clinically important end points, such as clinical outcome, and problems arising from analysis of cases with different treatment protocols. Differences in assay methods, such as different antibody clones from different manufacturers, which are not always specifically reported, can affect the assay results. Incorrect statistical analysis, which can be due to too few cases, improper censoring, or applying the wrong statistical test, can affect conclusions about the significance of the study findings.

Poor study reporting has consequences. Poorly conducted studies and incorrectly analyzed data can lead to erroneous conclusions, which in turn can lead to disseminated misinformation, result in incorrect application to routine diagnostics with direct impact on patient care, and instigate additional studies that lack a proper foundation.

To address these types of issues in human medicine, development of guidelines for reporting of prognostic markers was recommended at the US National Cancer Institute and European Organization for Research and Treatment of Cancer (NCI-EORTC) First International Meeting on Cancer Diagnostics in July 2000. This led to the formation of the Statistics Subcommittee of the NCI-EORTC Working Group on Cancer Diagnostics and the publication of REporting recommendations for tumour MARKer prognostic studies (REMARK) in 2005,[2] which has been widely adopted in human medicine.

The REMARK guidelines are the basis for a new checklist of reporting guidelines for manuscripts on tumor prognosis in *Veterinary Pathology*: https://journals.sagepub.com/pb-assets/cmscontent/VET/VetPathChecklist_ReportingGuidelines_TumorPrognosisManuscripts.docx. This checklist is designed

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to assist authors in properly describing how their study was conducted. It may not be possible to report on each item in the checklist for every study, and the checklist only provides guidelines for a standardized approach, but each paper should be clear about how the study was conducted and what is and is not known in the study so that readers can assess the methods, data, and conclusions of the study.

While adding a checklist to the submission process may seem like an additional burden to place on authors, it is our hope that this 10-point checklist will help reduce the overall publication burden by reducing time for peer review and revisions, facilitate an effective review process, and improve the quality and impact of published articles. We anticipate that this checklist, like the research it is designed to document, will evolve with the development of new techniques and types of biomarkers. We hope this approach will be adopted by other veterinary journals and result in optimal study design and improved reporting in published articles, with the final aim of overall improvement in veterinary oncologic clinical research and patient care.

Declaration of Conflicting Interests

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