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EDITORIAL

The MASCC/ISOO Mucositis Guidelines: dissemination and clinical impact

Rajesh V. Lalla · Fredrick D. Ashbury

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This editorial introduces the second set of articles related to the update of the clinical practice guidelines for mucositis, developed by the Mucositis Study Group of the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO). The first set of articles was published in a special section of the January 2013 issue of *Supportive Care in Cancer*. The January 2013 articles reported on the methods used, considerations driving the update of the mucositis guidelines, results related to gastrointestinal mucositis, as well as several classes of interventions for oral mucositis including oral cryotherapy, laser and other light therapy, cytokines and growth factors, and amifostine [1–8]. In the current special section of this issue, we present the remaining articles related to this update that focus on: oral hygiene maintenance, use of several additional classes of interventions, as well as pathogenesis of mucositis and risk of oral mucositis in patients receiving targeted therapies.

Basic oral care is widely accepted as good clinical practice in oncology (and other) patients. The article by McGuire et al. examines the evidence on whether oral hygiene maintenance can actually reduce oral mucositis severity. A suggestion was developed in favor of using oral care protocols for the prevention of oral mucositis in all age groups and across all cancer treatment modalities. However, no guideline was possible for specific agents such as saline and sodium bicarbonate mouthwashes, which are commonly used in clinical practice for oral hygiene maintenance. Next, Nicolatou-Galitis et al. review the use of anti-inflammatory agents for oral mucositis. Although it is well accepted that inflammatory pathways play a role in the pathogenesis of mucositis, evidence related to the use of anti-inflammatory agents is insufficient and/or conflicting. The only guideline possible in favor of an agent was a continuation of a previous guideline related to the use of benzydamine mouthwash for the prevention of oral mucositis in head and neck cancer patients receiving moderate-dose radiation therapy (up to 50 Gy), without concomitant chemotherapy. Saunders et al. present an overview of the evidence related to a number of classes of agents including antimicrobials, mucosal coating agents, anesthetics, and analgesics. Guidelines were developed in favor of some analgesic agents for relief of pain due to mucositis. In contrast, the evidence supported recommendations against the use of topical antimicrobial agents (for mucositis) and the mucosal coating agent sucralfate. Yarom et al. examine the use of products of natural origin for mucositis. The evidence supported a new suggestion in favor of systemic zinc in patients receiving head and neck radiation and a recommendation against intravenous glutamine in patients receiving hematopoietic stem cell transplant. Jensen et al. present results related to miscellaneous agents that did not fall into any of the previously discussed categories. Two agents, pilocarpine and pentoxifylline, were found to be ineffective while no guideline in favor of any miscellaneous agent was possible.

In addition to the sections examining various interventions for mucositis, we also had two additional groups. Al-Dasooqi et al. reviewed the preclinical and clinical literature related to the pathogenesis of mucositis. The current status of the knowledge on the pathogenesis of mucositis is presented in their manuscript. Finally, Elting et al. examine the risk of oral and

R. V. Lalla (✉)
Section of Oral Medicine and Neag Comprehensive Cancer Center, University of Connecticut Health Center, Farmington, CT, USA
e-mail: lalla@uchc.edu

F. D. Ashbury
Illawarra Medical Health Research Institute, University of Wollongong, Wollongong, New South Wales, Australia
e-mail: fashbury@uow.edu.au

F. D. Ashbury
Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada

F. D. Ashbury
Division of Preventive Oncology, Department of Oncology, University of Calgary, Calgary, Alberta, Canada

gastrointestinal mucosal injury among patients receiving certain targeted agents. As the use of targeted agents such as mTOR inhibitors increases, their oral and gastrointestinal side effects are assuming prominence and can sometimes be dose-limiting [9].

The MASCC/ISOO Mucositis Guidelines have become the leading clinical practice guidelines for this toxicity. This is evidenced by the fact that several other organizations have directly adopted, adapted, or refer to the MASCC/ISOO Mucositis Guidelines [10–12]. However, the true goal of such guidelines is to improve patient outcomes by facilitating evidence-based care. To achieve this, it is important for the guidelines to be widely disseminated, and most importantly, adopted into routine practice [13]. This is not without its challenges as behavioral, cultural, economic, process, and political barriers can affect uptake [14]. Therefore, it is incumbent upon us to explore ways to facilitate the dissemination and clinical use of these guidelines, monitor and evaluate implementation, and effect quality improvement strategies where gaps are found. Strategies to facilitate guidelines uptake can include open-access publication of the guideline-related papers, translations into other languages, development of pocket cards, as well as online resources including a version that can be downloaded onto a smartphone, decision-support triggers in oncology information systems that help prompt clinicians of relevant guidelines, chart reviews that include metrics to assess guidelines implementation, and feedback to providers on their performance [15, 16]. MASCC/ISOO is also engaged in discussions with relevant organizations to determine how we can best partner to minimize duplication of effort, to reduce confusion among practitioners as guidelines to address problems are being produced with increasing frequency from disparate sources, and to promote the clinical adoption of supportive care guidelines that optimize resources.

It is a significant challenge to measure the success and clinical impact of such efforts. While we are able to count the large number of downloads of our guidelines from www.guidelines.gov and www.mascc.org, we do not know much about the extent to which these guidelines influence clinical practice. Possible strategies to obtain such information include surveys of clinical providers and retrospective reviews of patient records. Each of these has limitations including the low response rate and nonrepresentative responders that may be associated with such surveys, as well as the lack of detailed documentation in patient records (although the absence of detailed documentation may suggest that the practice has not implemented a guideline), and difficulty obtaining accurate data on the incidence and severity of mucositis. Nevertheless, measuring the clinical impact of guidelines is an important area that MASCC/ISOO plans to partner with other interested organizations to design and implement. MASCC/ISOO's motto is "Supportive care makes excellent cancer care possible." In keeping with this, MASCC/ISOO's study groups are committed to enhancing the supportive care of oncology patients, improve the patient experience, and allow delivery of optimal cancer treatment.

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Conflict of interest Dr. Lalla serves as Chair of the Mucositis Study Group, MASCC/ISOO; Chair of the MASCC Guidelines Committee; and member of the MASCC Board of Directors. Dr. Ashbury is a member of the MASCC Guidelines Committee and ex officio member of the MASCC Board of Directors. No honoraria were received by members who participated in the guidelines update effort. No industry representatives attended the guidelines update meeting or participated in the guidelines update effort in any way.

Disclaimer The MASCC/ISOO Mucositis Guidelines are developed to facilitate evidence-based management of mucositis. However, clinicians should also use their own judgement in making treatment decisions for individual patients. The guideline authors and MASCC/ISOO do not guarantee or take responsibility for clinical outcomes in individual patients.

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