Prevention of oral mucositis in head & neck cancer patients: A systematic review

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Exegesis

Oral mucositis is a common and costly consequence of cancer treatment that currently lacks adequate intervention options. Patients treated for head and neck malignancies are at particularly high risk of severe mucositis, which significantly impedes delivery of therapy and consequently results in poorer outcomes in this population. As such, the quantitative objective of this review was to identify the effectiveness of agents and devices for oral mucositis prevention in newly diagnosed adult head & neck cancer patients being treated with radiotherapy with or without chemotherapy. The methodological framework developed by the Joanna Briggs Institute was followed to conduct the review. The quantitative component of the review considered any randomised controlled trials. In the absence of RCTs other research designs, such as non-randomised controlled trials and before and after studies, were considered for inclusion in a narrative summary to enable the identification of current best evidence. Databases were searched for published and non-published studies. A total of 202 studies were retrieved for review, with 81 studies excluded after reading the full article for clearly not meeting the inclusion criteria of the review. Two reviewers independently assessed 123 studies for methodological quality, excluding 51 for a range of reasons including failure to present baseline data, and use of intervention for mucositis treatment rather than prophylaxis. In the final 72 studies, 13 interventions provided sufficient evidence to be combined in meta-analyses. Only 8 interventions provided weak evidence of benefit to prevent oral mucositis in head and neck cancer patients treated with radiotherapy, with or without chemotherapy, including amifsotine (intravenous administration), aloe vera, G-CSF, honey, sucralfate, morning radiotherapy, providone-iodine and Wobe-Mugos E. Honey was the only intervention to significantly reduce severe mucositis during radiotherapy in all studies, indicating that this is a promising agent deserving further investigation. The remaining interventions had either too few studies conducted or conflicting results to make conclusions regarding effectiveness. A lack of studies which examined the same intervention and inconsistency in reporting of outcomes prevented

aggregation of study results into statistical meta-analysis for most interventions. Furthermore, a general need for additional well designed, adequately powered studies of interventions contributed to the lack of evidence. Future mucositis intervention studies require appropriate placebo controls and double blinding to increase the level of evidence available for the few promising interventions identified.

Declaration

I declare that this thesis is a record of original work and contains no material which has been accepted for the award of any other academic degree or diploma in any university or other tertiary institution, and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text.

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Dr Joanne Bowen

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