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Effectiveness Of Warm Water, Salt And Sodium Bicarbonate Mouth Rinse In Managing Oral Mucositis Among Patients With Carcinoma Buccal Mucosa Undergoing Radiation Therapy

Author

Abstract
Background: *Oral mucositis is a common and painful side effect experienced by patients undergoing radiation therapy for carcinoma of the buccal mucosa. Effective, low-cost interventions are needed to reduce its severity. This study evaluates the effectiveness of warm water, salt and sodium bicarbonate mouth rinse in reducing the severity of oral mucositis and improving patient comfort.*
Methods: *An experimental study was conducted among 50 patients diagnosed with carcinoma buccal mucosa undergoing radiation therapy. Participants in the intervention group received warm water, salt and sodium bicarbonate mouth rinse Every 2 hr daily. Mucositis severity was assessed weekly using the WHO Oral Mucositis Grading Scale over 4 weeks.*
Results: *At the end of 4 weeks, 73% of the intervention group reported Grade 0–1 mucositis. Patients also reported improved oral comfort and better food intake tolerance.*
Conclusion: *The warm water, salt and sodium bicarbonate mouth rinse is an effective, affordable and well-tolerated intervention for reducing the severity of oral mucositis in patients with carcinoma buccal mucosa receiving radiation therapy.*
Keywords: *Oral mucositis, carcinoma buccal mucosa, radiation therapy, salt, Warm water rinse, sodium bicarbonate, oral care*

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I. Introduction

Oral mucositis is a frequent complication in patients undergoing radiation therapy, especially in head and neck cancers such as carcinoma of the buccal mucosa. It presents with symptoms ranging from mild redness and soreness to severe ulcerations, pain and difficulty in eating and speaking. Managing mucositis is crucial in improving patient's quality of life and ensuring adherence to cancer treatment protocols.

The use of natural and easily available interventions such as warm water, salt and sodium bicarbonate mouth rinse has been suggested to reduce inflammation, maintain oral hygiene and soothe mucosal tissues. This study investigates the efficacy of this simple intervention in managing oral mucositis in a clinical setting. This study explores their effectiveness in preventing or minimizing radiation-induced oral mucositis.

Objectives

- To evaluate the effectiveness of warm water, salt and sodium bicarbonate mouth rinse in reducing the severity of oral mucositis.
- To assess patient-reported outcomes on oral discomfort and food intake tolerance
- To assess the severity of oral mucositis before and after intervention.

II. Methodology

Study Design:
Experimental study Design

Setting:
Radiation Oncology Department of a tertiary cancer centre

Sample Size:
50 patients diagnosed with carcinoma buccal mucosa, undergoing radiation therapy

Inclusive Criteria: The population included in the study are

- Patients with Ca Buccal mucosa
- Patients receiving Radiation therapy
- Patients willing to participate in study

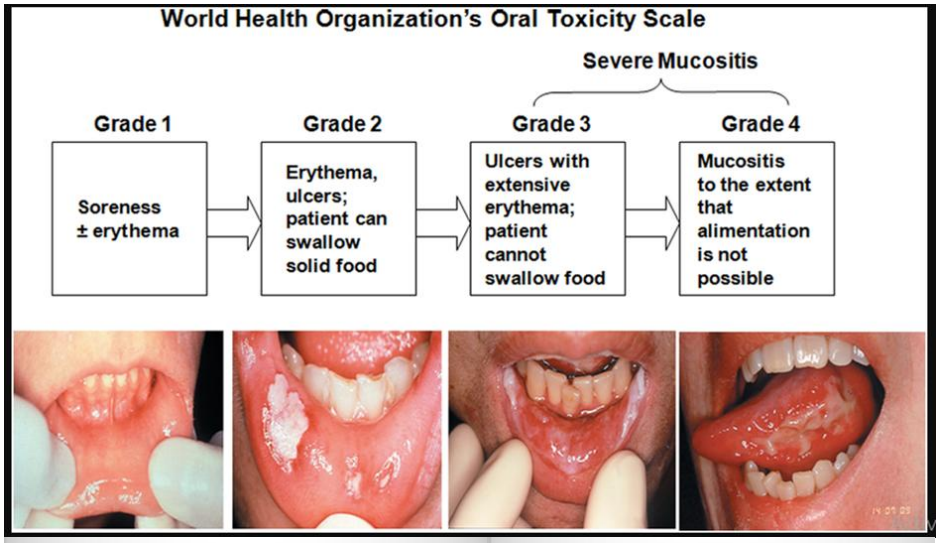
Exclusive Criteria: The population Excluded in the study are
- Patients Not willing to participate in study.
- Patients with other diagnosis.
- Patients with Grade 4 Mucositis

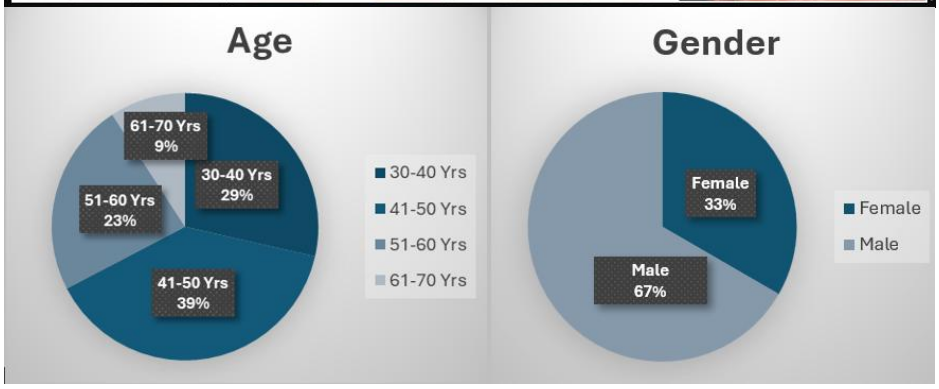
Intervention:

The intervention group used a mouth rinse made with a mix of ½ teaspoon of baking soda and ¼ Teaspoon of table salt in 1 cup of warm water.
½ Teaspoon=2.84 Grams/ 8 Pinches
¼ Teaspoon=1.05Grams/4 Pinches
1 Cup of Water=250ml

Rinse with the solution every 2 Hours. Severity of Oral Mucositis is analyzed with WHO Oral Mucositis Grading Scale before the intervention and again assessed after 4weeks of intervention.

Assessment Tool: WHO Oral Mucositis Grading Scale (Grade 0–4)





The above two pie charts represent the age distribution and gender of the 50 study participants. Among them, 29% (n=14) were aged between 30 and 40 years, 39% (n=20) between 41 and 50 years, 23% (n=12) between 51 and 60 years, and 9% (n=4) between 61 and 70 years. In terms of gender, 67% (n=34) were male and 33% (n=16) were female.
Statistically significant reduction in mucositis severity after mouth rinse was observed in the patients ($p < 0.001$). Participants reported reduced pain, improved ability to eat and speak and better oral hygiene after using the rinse.

III. Discussion

The findings indicate that warm water, salt and sodium bicarbonate rinse significantly reduce the severity and onset of oral mucositis. The anti-inflammatory properties of salt along with the pH-buffering and mild antiseptic action of baking soda, contribute to improved mucosal integrity. The rinse is not only cost-effective but also easy to prepare and administer, making it an ideal intervention in both institutional and home care settings.

These results support previous findings where basic oral care solutions reduced mucositis incidence and improved patient adherence to therapy. This approach also aligns with global oral hygiene recommendations for cancer patients.

IV. Conclusion

The use of warm water, salt and sodium bicarbonate mouth rinse is a simple, inexpensive and effective method to manage radiation-induced oral mucositis in patients with carcinoma buccal mucosa. It significantly lowers mucositis severity, reduces discomfort and supports better nutritional intake during therapy.

V. Recommendations

- Incorporate warm water, salt and bicarbonate rinses into routine nursing protocols for patients undergoing head and neck radiotherapy.
- Educate patients and caregivers on home preparation and use.
- Conduct further randomized controlled trials with larger samples and biochemical assessment of mucosal healing.

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