

# The Effectiveness Of Different Oral Care Solutions For The Treatment Of Chemotherapy-Induced Oral Complications



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## Introduction

Oral complications are considered to be the most common debilitating side effect of chemotherapy. Symptoms include sore throat pain and oral dryness. These complications affect nutrition, speaking, function and quality of life of patients under cancer treatment. Oral solutions are containing different category of agents, which have been used for the treatment of chemotherapy-induced oral complications.

## Aim of the study

To determine the effectiveness of using different oral care solutions for the treatment of chemotherapy-induced oral complications in cancer patients receiving chemotherapy at an oncology center.

## Methods

- A prospective study was carried out on 90 patients with new diagnosis of diverse types of cancers eligible for different chemotherapeutic regimens at the oncology centre of Dr. Lütfi Kırdar Kartal Teaching and Research Hospital at Istanbul –Turkey.
- Patients were divided into 3 groups as A, B, C group of 30 patients each and followed-up every two weeks.
- Cancer patients suffering from oral mucositis within each group were receiving oral care solutions using benzydamine hydrochloride, sodium bicarbonate, and glutamine powder respectively.
- Patients within each group were evaluated and followed-up using “Patient Observation Form”, “Oral Mucosa Evaluation Form”, and “Visual Analogue Scale”.

## Results

- Socio-demographic characteristics regarding gender and smoking habits showed no significant difference ( $P=0.051$ ;  $P=0.894$ ) respectively.
- Patients receiving glutamine powder in Group C showed a significant decrease in oral mucositis ( $P=0.029$ ).
- Patients in both Group A and B were significantly suffering from throat pain ( $P=0.029$ ) compared to patients in group C.
- Moreover, patients in Group A were significantly suffering from marked oral dryness ( $P=0.0001$ ).
- According to the Rotterdam symptom list, physical disturbances of Group B was much more ( $P=0.041$ ) than that of other groups at the end of the study.

## Conclusions

Among the most common oral care solutions, glutamine powder was found to be the most effective oral care solution for the treatment of oral complications including mucositis, oral mucosal pain and oral dryness in cancer patients receiving chemotherapy.

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Table 1: Differences Between the Three Groups in Terms of Evaluation of Mucositis, Throat Pain and Mouth Dryness

	Group 1 (n=30)	Group 2 (n=30)	Group 3 (n=30)	Significance
Mucositis 2. Reading				
No	13 (18.3)	19 (18.3)	23 (18.3)	$\chi^2= 7.106$
Yes	17 (11.7)	11 (11.7)	7 (11.7)	$p= 0.029^*$
Throat pain 1. Reading				
No	23 (24.0)	24 (24.0)	25 (24.0)	$\chi^2= 0.417$
Yes	7 (6.0)	6 (6.0)	5 (6.0)	$p= 0.812$
Throat pain 2. Reading				
No	17 (19.3)	16 (19.3)	25 (19.3)	$\chi^2= 7.080$
Yes	13 (10.7)	14 (10.7)	5 (10.7)	$p= 0.029^*$
Mouth Dryness 1. Reading				
No	16 (16.0)	11 (16.0)	21 (16.0)	$\chi^2= 6.696$
Yes	14 (14.0)	19 (14.0)	9 (14.0)	$p= 0.035^*$
Mouth Dryness 2. Reading				
No	6 (11.3)	8 (11.3)	20 (11.3)	$\chi^2= 16.261$
Yes	24 (18.7)	22 (18.7)	10 (18.7)	$p= 0.000^{***}$

Group 1: Benzydamine hydrochloride, Group 2: Sodium bicarbonate solution, Group 3: glutamate

Table 2: List of Rotterdam Between Groups at First and Second Interview Symptom Score Differences (N=90)

	First Reading (ort±SS)	Significance	Second Reading (ort±SS)	Significance
Physical Discomfort				
Group 1	7.83±5.77	F=0.557	10.03±6.81	F=3.307
Group 2	9.43±6.33	p=0.575	12.66±7.31	p=0.041*
Group 3	8.93±5.89		8.46±4.75	
Psychological Discomfort				
Group 1	2.26±2.43	F=1.846	2.30±2.91	F=2.518
Group 2	3.00±3.41	p=2.518	3.36±3.76	p=0.086
Group 3	1.66±2.03		1.63±2.15	
Activity Level				
Group 1	19.10±4.67	F=6.414	15.13±8.66	F=0.017
Group 2	15.50±4.93	p=0.030*	15.10±4.38	p=0.983
Group 3	14.93±5.03		15.36±4.39	
Quality of Life				
Group 1	6.36±1.88	F=0.406	6.83±1.36	F=1.848
Group 2	6.30±1.02	p=0.687	6.40±1.10	p=0.075
Group 3	6.43±1.07		6.50±1.16	

Group 1: Benzydamine hydrochloride, Group 2: Sodium bicarbonate solution, Group 3: glutamate

