

Oral care for patients with neuromuscular difficulty: Comparison of the effects of sodium bicarbonate water and dental rinse

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Abstract

We compared the effects of sodium bicarbonate water for food and dental rinse on the oral care of nine bedridden patients hospitalized in our facility. As for drying, there was no great difference in the effect of sodium bicarbonate water for food and dental rinse. Regarding bad breath, cleansing of the oral cavity, bicarbonate water for food was more effective than dental rinse

Key words: oral care, food for baking soda, dental rinse

Introduction

About 80% of patients in hospital A have neuromuscular difficulty. Of these, more than 80% are bedridden and find it difficult to ingest orally, so many of them accept nasoreal nutrition. Many patients have poor saliva secretions and lie with their mouths open. Therefore, drying in the mouth and bad breath are noticeable. Nurses carry out oral care, but we have not established which method is most appropriate. I felt the unification of the procedure was inadequate due to the years of experience and recognition of nurses. Some researchers have found that baking soda (sodium bicarbonate), has a mucolytic action. This easily removed by dissolving the scab and dry sputum caused by dry peel epithelium and bleeding. Consequently this is effective for removing tongue moss which is an aggregate of exfoliated epithelium, food residue, bacteria and the like. We plan to compare the effect of dental rinse currently in use, and the effect of sodium bicarbonate water for food.

Subjects and methods

The subjects were nine patients experiencing

neuromuscular difficulties during hospitalization

Methods

- 1) Using the Sakuda Oral Care Assessment Sheet (Table 1), the condition in the oral cavity of the current patient is evaluated.
- 2) Procedures for oral care are created, explanation of the oral care procedure to the nursing staff using practical skills, and the procedures of all members are unified.
- 3) The nine subjects were divided into two groups.
Group 1: dental rinse two weeks → regular oral care two weeks → 2% sodium bicarbonate water for food two weeks
Group 2: 2% sodium bicarbonate solution for food two weeks → normal oral care two weeks → dental rinse two weeks
Oral care is carried out for six weeks.
- 4) The condition in the oral cavity of the two groups is evaluated using an assessment sheet.
(The assessment is carried out before the start and three hours after the start.)
Ethical consideration: Consent was obtained using explanatory text approved by the ethics committee.

Result

We received cooperation from nine subject patients. They were evaluated using an oral care assessment sheet during the six week oral care period. From the oral care assessment sheet, we focused on the following items: <saliva amount> <state of lips / mucous membranes> <degree of bad breath> <oral cleaning condition> items. (Table 2)

With respect to <amount of saliva>, three of the patients, A, B, E, had high scores for sodium bicarbonate for food, three patients, G, H, I, had high scores for dental rinse, and three others were equal there were. Regarding <state of lips and mucous membranes>, five out of nine were tied. In terms of <bad breath degree>, four out of nine were tied, and A, C and D had high scores of sodium bicarbonate for food. As for <Cleaning condition of oral cavity>, seven out of nine were tied, and A and B had high scores for sodium bicarbonate for food. Overall, 19 items out of 36 items with no change were the most frequent.

In each group, one group had a high score for sodium bicarbonate water for food, and two patients had high scores for dental rinse in two groups.

Discussion

With regard to the amount of saliva> <state of lips and mucosa>, there was no significant difference in the effect of sodium bicarbonate water for food and dental rinse. Moreover, it was found that sodium bicarbonate water for food had a positive effect on <degree of bad breath> and <state of oral cavity cleaning>. Since there is no great difference in the effects of the two methods, we think that the cheaper sodium bicarbonate water for food is preferable and its use would lead to a reduction in the burden on the patient's family.

As a result of the implementation for six weeks, the effectiveness of the latter evaluation was higher in both groups. This may indicate that the effect changes depending on the technical skill level of the nurse. Continuing the unified oral care

method may further improve the effectiveness.

Table 1 Sakuda's Oral Care Assessment Sheet

	Item	Contents	3 point	2 point	1 point
1	Meal	Contents, nutrition method	Normal · soft food · flow · mixer	Tube feeding	IVH
2	Chewing	Chew function	Normal	Difficult	Impossible
3	Vocalization	Speech, clarity of words	Normal	Difficult	Impossible
4	Swallowing	Drinking, chopsticks	Normal	Difficult	Impossible
5	Tongue	Tongue bud, swelling, movement	Good	Intermediate	Bad
6	Saliva	Wet, dry, intraoral observation	Normal	Intermediate	Absent
7	Lip / mucosa	Color tone, drying, swelling etc.	Good	Intermediate	Bad
8	Gums	Color tone, drying, swelling, bleeding	Good	Intermediate	Bad
9	Number of teeth	Number of remaining teeth	>20	10~20	10>
10	Dental caries	Dental caries number	None	C2<	C3<
11	pain	Teeth, gums, tongue, palate	None	Sometimes	Always
12	Other symptoms	Taste, opening / closing opening	None	Sometimes	Always
13	Bad breath Cleaning		None	Sometimes	Always
14	Condition of oral cavity	Food residue	Cear	Intermediate	Bad
15	Number of oral care	Self-care	3/day	Intermediate	None
16	Oral Care Independence	Dentifrice	Independent	Intermediate	Whole assistance
17		Gargle	Independent	Intermediate	Whole assistance
18		Denture attachment / detachment	Independent	Intermediate	Whole assistance
19	Compensatory behavior	Caregiver	3/day	Intermediate	None
20	Contents of compensator	Tooth brushing, rinsing, denture cleansing			

Table 2 Effect of sodium bicarbonate water (S) and dental rinse (D)

	patient	Amount of saliva		Condition of lip and mucosa		Degree of bad breath		Cleaning condition of oral cavity	
		S	D	S	D	S	D	S	D
1group	A	◎ 3	2	◎ 3	2	◎ 2	1	◎ 3	1
	B	◎ 3	1	2	2	3	3	◎ 3	2
	C	1	1	1	1	◎ 3	1	1	1
	D	1	1	1	1	◎ 2	1	1	1
	E	◎ 3	2	2	2	2	△ 3	3	3
2group	F	3	3	2	△ 3	3	3	3	3
	G	2	△ 3	2	△ 3	3	3	2	2
	H	1	△ 2	2	2	3	3	2	2
	I	2	△ 3	1	△ 2	1	△ 2	2	2

◎ Sodium bicarbonate water for food is more effective

△ Dental rinse is more effective