

Chemotherapy-induced oral mucositis: prevention is possible

Author: Maria Esther Una-Cidon

Aims

Prevention of chemotherapy-induced oral mucositis (OM) without reducing chemotherapy intensity.

Methods

A prospective study of breast cancer patients undergoing neoadjuvant or adjuvant treatment with FEC (5 fluorouracil, epirubicin, cyclophosphamide) or docetaxel.

Eligible patients

Those who had already developed OM grade II or II–III with first cycle (see Table 1).

Table 1.

OM grading	Description
0	None
I	Oral soreness, erythema
II	Erythema, ulcers, solid diet tolerated
III	Ulcers, liquid diet only*
IV	Oral alimentation impossible

*For this study, OM grade II–III included those patients who had ulcers but could tolerate some solid food as well as liquid.

Preparation

Mixture consisting of a combination of 100 mL of water, 5 mg of prednisolone, two drops of nystatin and 2,300 mg of salt (one teaspoon).

Key factors

To ensure a personalised treatment, the use of this mouthwash was based on the chronology and duration of the previous episode of OM. Recommended three times daily (after each meal). To keep in contact with the mucosa for a minimum of 30 seconds.

Patients were recommended to start the use of this mouthwash 3 days before the expected episode of OM appearance, depending on chronology of first episode. They continued on it for 3 days longer than the previous duration.

Primary endpoint: incidence of OM grade II or II–III with the following cycle.

Secondary endpoint: rate of chemotherapy dose reduction, incidence of OM grade 0, I and II.

Data were collected through a patient's interview. We hypothesised that less than 50% of patients would develop OM grade II–III in comparison to a historical rate of 80%. Using 80% power and a two-sided significance level of 0.05, it was determined that 44 valuable patients would be needed. The comparison was performed using an exact test for the binomial distribution.

Results

Sixty-eight patients were included. 23 had developed OM grade II–III with first cycle and 45 had developed grade II. With the use of this product, only two cases developed OM grade II–III, eight cases grade II, 26 grade I and 32 grade 0.

Only four patients required chemotherapy dose reduction it (5.8%) (results in Table 2).

Table 2.

OM grading	N	Expected incidence of OM without measures	Incidence after the special mouthwash
0	0	0	32
I	0	0	26
II	45 (66.1%)	14	8 (11.7%)
II–III	23 (33.9%)	38	2 (2.9%)
III	0	16	0
Total grade >II	23	54	2

A binomial test indicated that the probability of grade II–III OM after using this mouthwash as instructed, was lower than the expected $p=0.000087$ (one-sided).

The probability of grade II OM was also lower $p=0.000015$ (one-sided).

Conclusion

Our study showed a significant reduction in the rate of OM grade II–III, and a low rate of chemotherapy dose reduction due to OM. We have achieved our objectives and we have established this as standard in our institution. Further evaluation in other centres to confirm these results is needed. ■

Conflict of interest statement

The author has no affiliations with or involvement in any organisation or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Author: Royal Bournemouth Hospital NHS Foundation Trust Bournemouth, UK