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[Intervention Review]

Interventions for preventing oral candidiasis for patients with cancer receiving treatment

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ABSTRACT

Background

Treatment of cancer is increasingly more effective but is associated with short and long term side effects. Oral side effects remain a major source of illness despite the use of a variety of agents to prevent and treat them. One of these side effects is oral candidiasis.

Objectives

To assess the effectiveness of interventions (which may include placebo or no treatment) for the prevention of oral candidiasis for patients with cancer receiving chemotherapy or radiotherapy or both.

Search methods

Computerised searches of Cochrane Oral Health Group and PaPaS Trials Registers, CENTRAL, MEDLINE, EMBASE, CINAHL, CANCERLIT, SIGLE and LILACS were undertaken.

Reference lists from relevant articles were searched and the authors of eligible trials were contacted to identify trials and obtain additional information.

Date of the most recent searches: 3 August 2009: CENTRAL (*The Cochrane Library* 2009, Issue 3).

Selection criteria

Trials were selected if they met the following criteria: design - random allocation of participants; participants - anyone receiving chemotherapy or radiotherapy treatment for cancer; interventions - agents prescribed to prevent oral candidiasis; primary outcome - prevention of oral candidiasis.

Data collection and analysis

Data were recorded on the following secondary outcomes if present: relief of pain, amount of analgesia, relief of dysphagia, incidence of systemic infection, duration of stay in hospital (days), cost of oral care, patient quality of life, death, use of empirical antifungal treatment, toxicity and compliance.

Information regarding methods, participants, interventions, outcome measures and results were independently extracted, in duplicate, by two review authors. The Cochrane Collaboration statistical guidelines were followed and risk ratios (RR) calculated using random-effects models. Potential sources of heterogeneity were examined in random-effects metaregression analyses.

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Main results

Twenty-eight trials involving 4226 patients satisfied the inclusion criteria. Drugs absorbed and partially absorbed from the gastrointestinal (GI) tract were found to prevent oral candidiasis when compared to a placebo, or a no treatment control group, with RR for absorbed drugs = 0.47 (95% confidence interval (CI) 0.29 to 0.78). For absorbed drugs in populations with an incidence of 20% (mid range of results in control groups), this implies a number needed to treat (NNT) of 9 (95% CI 7 to 13) patients need to be treated to avoid one patient getting oral candidiasis. There was no significant benefit shown for drugs not absorbed from the GI tract.

Authors' conclusions

There is strong evidence, from randomised controlled trials, that drugs absorbed or partially absorbed from the GI tract prevent oral candidiasis in patients receiving treatment for cancer. There is also evidence that these drugs are significantly better at preventing oral candidiasis than drugs not absorbed from the GI tract.

PLAIN LANGUAGE SUMMARY

Interventions for preventing oral candidiasis for patients with cancer receiving treatment

There is strong evidence that some antifungal drugs prevent oral candidiasis (thrush) caused by cancer treatment, but nystatin does not appear to work.

Treatment for cancer can lead to severe fungal infections (thrush) in the mouth. This can cause discomfort, pain, difficulties in eating, longer stays in hospital and more worryingly, systemic infection and risk to life. Different drugs are used to try and prevent this condition. The review found strong evidence from a large number of trials that some of the antifungal drugs (those absorbed and partially absorbed into the body) help prevent fungal infections in the mouth. Some other commonly used drugs such as nystatin, which are not absorbed into the body, do not appear to work.