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[Intervention Review]

Aromatherapy for treatment of postoperative nausea and vomiting

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ABSTRACT

Background

Postoperative nausea and vomiting is a common and unpleasant phenomenon and current therapies are not always effective for all patients. Aromatherapy has been suggested as a possible addition to the available treatment strategies.

Objectives

This review sought to establish what effect the use of aromatherapy has on the severity and duration of established postoperative nausea and vomiting and whether aromatherapy can be used with safety and clinical effectiveness comparable to standard pharmacological treatments.

Search methods

We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (*The Cochrane Library* 2011, Issue 3); MEDLINE; EMBASE; CINAHL; CAM on PubMed; Meditext; LILACS; and ISI Web of Science as well as grey literature sources and the reference lists of retrieved articles. We conducted database searches up to August 2011.

Selection criteria

We included all randomized controlled trials (RCTs) and controlled clinical trials (CCTs) where aromatherapy was used to treat postoperative nausea and vomiting. Interventions were all types of aromatherapy. Aromatherapy was defined as the inhalation of the vapours of any substance for the purposes of a therapeutic benefit. Primary outcomes were the severity and duration of postoperative nausea and vomiting. Secondary outcomes were adverse reactions, use of rescue anti-emetics and patient satisfaction with treatment.

Data collection and analysis

Two review authors assessed risk of bias in the included studies and extracted data. As all outcomes analysed were dichotomous, we used a fixed-effect model and calculated relative risk (RR) with associated 95% confidence interval (95% CI).

Main results

The nine included studies comprised six RCTs and three CCTs with a total of 402 participants. The mean age and range data for all participants were not reported for all studies. The method of randomization in four of the six included RCTs was explicitly stated and was adequate. Incomplete reporting of data affected the completeness of the analysis. Compared with placebo, isopropyl alcohol vapour inhalation was effective in reducing the proportion of participants requiring rescue anti-emetics (RR 0.30, 95% CI 0.09 to 1.00, P = 0.05). However, compared with standard anti-emetic treatment, isopropyl alcohol was not effective in reducing the proportion of participants

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requiring rescue anti-emetics (RR 0.66, 95% CI 0.39 to 1.13, $P = 0.13$) except when the data from a possibly confounded study were included (RR 0.66, 95% CI 0.45 to 0.98, $P = 0.04$). Where studies reported data on patient satisfaction with aromatherapy, there were no statistically significant differences between the groups (RR 1.12, 95% CI 0.62 to 2.03, $P = 0.71$).

Authors' conclusions

Isopropyl alcohol was more effective than saline placebo for reducing postoperative nausea and vomiting but less effective than standard anti-emetic drugs. There is currently no reliable evidence for the use of peppermint oil.

PLAIN LANGUAGE SUMMARY

Aromatherapy for treating postoperative nausea and vomiting

Postoperative nausea and vomiting (PONV) is a common and unpleasant side effect of surgery, with 20% to 30% of all patients suffering moderate to severe nausea and vomiting following general anaesthesia using volatile agents (inhaled anaesthesia). Nausea is an abdominal discomfort or queasiness that may be accompanied by vomiting (the forceful expulsion of stomach contents through the mouth). Current drug treatments may not always work effectively or they may have unpleasant adverse effects. Aromatherapy is sometimes recommended for treating nausea and vomiting, though currently there is not sufficient evidence that it is effective. Aromatherapy uses inhalation of the vapour of essential oils or other substances to treat or alleviate physical and emotional symptoms. We examined nine studies of aromatherapy for PONV, with a total of 402 participants. Six studies of the brief inhalation of isopropyl alcohol vapours showed that it can have some effect in reducing postoperative nausea and vomiting; however it seems to be less effective than standard drug treatments. There was a moderate risk of bias due to the design of some of the studies. Isopropyl alcohol is also known as rubbing alcohol and is commonly found in the type of 'prep-pad' used to clean skin prior to injection. There is currently no reliable evidence to support the use of other aromatherapies such as peppermint oil to treat postoperative nausea and vomiting. No included studies reported any adverse effects from the aromatherapies used.