Journal Watch

Atropine drops for drooling: a randomized controlled trial. Palliat Med 2006; 20:665-71.
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Abstract

Introduction: Drooling occasionally occurs in cancer patients, impairing their quality of life. Recommended treatment includes the use of anticholinergic drugs, but there is a lack of scientific evidence supporting it; some recent reports tested the use of sublingual atropine, and further controlled studies have been recommended.
Objective: To evaluate the effectiveness of sublingual atropine for the relief of drooling when compared with a placebo, in a population of patients with upper digestive cancer at the Gastroenterology 'Bonorino Udaondo' Hospital.
Population and methodology: From March 2002 to March 2003, 22 consecutive patients were enrolled in a prospective, randomized, placebo-controlled, double-blind, cross-over trial (gender: M/F=14/8; median age =66, range: 48-87 years). Patients were randomly allocated to receive atropine or placebo for 48 hours (phase 1), followed by a wash-out period of 48 hours, and final cross-over during the next 48 hours (phase 2). We evaluated the impact on sialorrhoea, choking, interference with daily and social activities, and global impact from drooling by visual analogue scales (VAS) at the beginning and end of each phase, as well as patients' choice at the end of the study.
Results: Mean score for sialorrhoea was 59.6 (SD =28.5) at baseline and 34.9 (SD =27.7) after 48 hours of receiving atropine; 62.1 (SD =27.6) at baseline and 40.7 (SD =30.5) after 48 hours of placebo. Analysis of variance (ANOVA) for repeated measures and two factors was not significant for either the variable sialorrhoea (P =0.58) or any of the secondary outcomes measured. No severe toxicity was reported.
Conclusions: This study failed to demonstrate the effectiveness of atropine over placebo in this population; we provide further discussion of results.

Comments

Strengths/uniqueness:
This randomized, placebo-controlled clinical trial using a cross-over and washout period design is a reasonable first attempt to assess the utility of sublingual atropine for the management of sialorrhoea/drooling in the palliative care setting. At time of study, there was a paucity of evidence surrounding this topic with only case reports of benefit demonstrated with scopolamine and glycopyrrolate.
None of the enrolled patients were lost to follow-up.

Weaknesses:
The main criticism revolves around the VAS assessment tool for sialorrhoea used in the study, which has not been previously validated. The author's justification was to "mainly avoid overburdening the patients" but this non-validated tool in the palliative are setting makes it difficulty to interpret the results of the primary and secondary outcomes. As the authors rightfully pointed out, it would be better to use objective measures of salivary secretion, but technically this would be difficult to perform. Further, the small dose of atropine, at 2 mg daily sublingually in 4 divided doses, may confound treatment outcomes. (No adverse effects were observed with the use of atropine). Last but not least, the small sample size coupled with a high observed placebo effect also confounds data interpretation.

Relevance to Palliative Care:
Sialorrhoea/drooling can be quite disturbing and distressful both to the patient with terminal cancer illness, as well as their families. Currently, there is a lack of evidence surrounding sialorrhoea in the palliative care setting, and although this study suggests that atropine sublingually is not more effective than placebo in this group of upper gastrointestinal cancer patients, there are a number of weaknesses and study limitations which warrant further studies.