

Acupuncture relieves symptoms of a dry mouth caused by radiotherapy for head and neck cancers

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Patients who have received radiotherapy for head and neck cancer often suffer from the unpleasant and distressing side-effect of a dry mouth, caused by damage to their salivary glands from the radiation.

Now, a new study has shown that acupuncture can relieve the symptoms of dry mouth (known as xerostomia). The findings from the largest trial yet to investigate this are published in the cancer journal *Annals of Oncology* [1] today (Wednesday).

Around half a million people worldwide develop [head and neck cancer](#) each year and, at present, there are few effective treatments for dry mouth, which is a common side effect of radiotherapy; as many as 41% of patients can still be suffering from it five years later. Xerostomia affects the patients' quality of life, interfering with taste, chewing, speaking and sleeping. Short-term solutions such as mouthwashes, [gels](#) and toothpastes provide some respite, while treatment with a drug called pilocarpine has its own unwanted side-effects.

Doctors at seven cancer centres in the UK [2] recruited 145 patients suffering from radiation-induced xerostomia to a trial comparing acupuncture with education about oral care. The patients were randomised to receive group acupuncture sessions for 20 minutes every week for eight weeks, or two oral care educational sessions for one hour, one month apart. Four weeks after the end of these two different types

of care, the patients swapped over to receive the other treatment.

Symptoms of xerostomia were measured objectively by means of [paper strips](#), called Schirmer strips, which measure the amount of saliva in the mouth. A tried and tested quality of life questionnaire measured patients' subjective reporting of how their mouths felt, with questions about changes in individual symptoms such as sticky saliva, dry lips, needing to sip water to relieve a dry mouth, needing to sip water to help swallow food, and waking at night to sip water.

Although the researchers found there were no significant changes in saliva production, patients who had received nine weeks of acupuncture were twice as likely to report improved dry mouth than patients receiving oral care. Individual symptoms were also significantly improved among the group receiving acupuncture.

Dr Richard Simcock, consultant clinical oncologist at the Sussex Cancer Centre and one of the authors of the study, said: "Time had an important effect on key symptoms, with patients receiving acupuncture showing a quick response, which was sustained over several weeks."

The researchers said that the subjective reporting of improvements in xerostomia was of more significance than the lack of changes in the objective test with the Schirmer strips. "There was no clear relationship between a patient indicating they had a very dry mouth and the measurement of saliva on the Schirmer strips," explained Dr Simcock. "By definition these patients with chronic xerostomia produced little or no saliva, making objective measurements really difficult. Many studies have focused on the objective measurement of how much saliva is produced, but the amount of saliva produced does not necessarily influence the experience of a [dry mouth](#). Xerostomia is therefore an entirely subjective symptom – it is what the patient says it is, regardless of salivary measurement."

They also believed that the improvements in the experience of xerostomia were unlikely to be due to a placebo effect. Dr Valerie Jenkins, Deputy Director of Sussex Health Outcomes Research & Education in Cancer (SHORE-C) at Brighton & Sussex Medical School, University of Sussex, who supervised the research, said: "The profound impact that xerostomia exerts on functions such as eating, talking and sleeping, which were relieved by the acupuncture means that if it is entirely a placebo effect than this is a pretty powerful placebo. In addition, the results showed that patients were less likely to wake at night to sip water after treatment – this effect seems difficult to ascribe solely to placebo."

She concluded: "The scepticism that exists about complementary therapies such as these is often due to inadequately designed and reported studies. This was a well-controlled, randomised trial conducted in major cancer centres throughout UK with good governance and reporting of adverse events."

The researchers say that further studies are needed to refine the acupuncture technique and discover how long its effect lasts and whether booster sessions might be required. But they believe it could be easily incorporated into the care of patients with xerostomia.

Dr Simcock said: "This is a very neglected group of patients suffering from a most unpleasant side-effect of treatment for which all other ameliorative interventions have failed to address adequately. The [acupuncture](#) intervention has been designed in a way that allows it to be delivered simply and cheaply in normal hospital surroundings and yet still produces a significant benefit for patients with a chronic symptom."

More information: *Annals of Oncology*. [doi:10.1093/annonc/mds515](https://doi.org/10.1093/annonc/mds515)

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