

# Summary of: Xerostomia and chronic oral complications among patients treated with haematopoietic stem cell transplantation

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## FULL PAPER DETAILS

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Online article number E17

Refereed Paper – accepted 24 August 2009

DOI: 10.1038/sj.bdj.2009.977

© British Dental Journal 2009; 207: E17

**Objective** To assess the severity of xerostomia (subjective dry mouth) in haematopoietic stem cell transplantation (HSCT) patients and to investigate the association of xerostomia with other chronic oral complications. **Design** Cross-sectional study. **Study participants and methods** Participants were 48 patients with a history of HSCT recruited among members of the Dutch Stem Cell Transplantation Contact Group, and a comparison group of 41 age- and sex-matched individuals. Data were collected using the Xerostomia Inventory (XI score) and a seven-item oral health questionnaire. **Results** HSCT patients had a higher XI score than the comparison group, and a greater severity of several oral complaints: painful oral mucosa, altered taste, limited opening of the mouth and problems with tooth brushing. HSCT patients did not report greater pain during cold stimulation of teeth, chipped and cracked teeth or bleeding gums. In HSCT patients, the XI score correlated significantly with the severity of oral mucosal pain, altered taste, limited opening of the mouth, painful teeth following cold stimuli, chipped or cracked teeth, problems with tooth brushing and bleeding gums. In the comparison group, no correlations were observed between XI score and these oral problems. **Conclusion** HSCT patients have more severe xerostomia, which is associated with other oral complaints. Dental professionals should monitor these patients post-transplant for oral complications. Symptoms of dry mouth should be relieved and secondary complications should be prevented.

## EDITOR'S SUMMARY

The advance of science in relation to stem cell research and its clinical applications takes huge steps forwards on a regular basis. As clinicians it is therefore increasingly likely that we will start to see, and be required to treat, patients who have had stem cell therapies of one kind or another in the future, or to offer advice prior to their commencement.

Inevitably, with all advances come disadvantages or drawbacks and in the study reported here in patients treated with haematopoietic stem cell transplantation the oral side effect is xerostomia. As we are aware, dry mouth has all manner of consequences for quality of life such as impaired speech, taste and swallowing, as well as possible disease progression with caries in particular likely to present problems.

There are two important aspects to this paper, which is something of a pioneering study. Firstly it serves to emphasise

the need for dentists and their teams to be part of larger teams caring for patients and to co-operate and interact with medical colleagues. This is crucial in order to ensure that patients receive the most appropriate and particular care, in this case in easing oral discomfort and preventing disease initiation and progression at a time when many other more pressing matters might be seen to be of greater immediate importance.

Secondly, the study is something of a trailblazer in drawing attention to the oral health of this group of patients and in calling for further research. Although there are limitations in the work, acknowledged by the authors, we felt that it was a valuable contribution to the dental literature in putting down a marker for patients undergoing this treatment for malignant and non-malignant conditions and for drawing readers' attention to what is likely to become a growing number of patients requiring

care. The age range too is salutary, being from 21 to 67 years of age meaning that for the younger patients a potentially long lifetime of care will be required to monitor and treat salivary dysfunction.

The full paper can be accessed from the *BDJ* website ([www.bdj.co.uk](http://www.bdj.co.uk)), under 'Research' in the table of contents for Volume 207 issue 9.

Stephen Hancocks,

Editor-in-Chief

DOI: 10.1038/sj.bdj.2009.990

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**IN BRIEF**

- Patients treated with haematopoietic stem cell transplantation have a high level of xerostomia and a greater severity of several other chronic oral complications.
- The level of xerostomia is associated with the severity of the oral complaints.
- Dental professionals should alleviate these problems as much as possible and prevent secondary complications.

**COMMENT**

Evidence-based information on late oral complications of haematopoietic stem cell transplantation (HSCT) is relatively scarce and this study's authors set out to provide preliminary data to justify further research. The paper describes a cross-sectional protocol that gathered subjective data from 48 patients post-HSCT and compared them to those obtained from 41 age and sex matched controls. No objective data are presented and the patients represent a heterogeneous group that includes at least nine different diagnoses and an unknown number of therapeutic protocols. Both autologous and allogeneic transplantations are included, though an attempt is made to stratify these two types. The analyses employed are the Mann-Whitney U Test and the Spearman Rank Order Correlation.

Results of the study are largely according to expectations: patients have significantly worse oral pain, altered taste, limited opening and difficulty brushing. All these problems are correlated with xerostomia, which is almost twice as bad in patients when measured with the Xerostomia Inventory tool. Interestingly, neither xerostomia nor other oral complaints show any difference by type of transplant (allogeneic *vs* autologous). It is notable here that 86% of the allogeneic patients reported a history of graft-*versus*-host disease (GVHD). The authors conclude that HSCT is responsible for long-lasting xerostomia and other oral complications.

While well intended, this study suffers from multiple limitations that severely restrict the value of its contribution. Some of these (low power, diagnosis, treatment and post-transplantation time heterogeneity) are acknowledged by the authors. In addition, lack of information on current medication and co-morbidity is a major flaw as most cases of xerostomia are drug- and/or disease-induced. Also, one would expect that if the number of patients was higher, there would be an apparent contribution of GVHD toward both salivary function and mucosal disease. Nevertheless, this paper confirms that xerostomia and associated oral symptoms are prominent factors in the low quality of life experienced by patients after HSCT. The call for increased attention to oral issues in this group of patients is fully justified and so is the urge for more research on the topic.

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**AUTHOR QUESTIONS AND ANSWERS****1. Why did you undertake this research?**

The number of haematopoietic stem cell transplantation (HSCT) survivors is increasing. Nevertheless, at present little information is available about the oral complaints these individuals may have. We undertook this study as a first step to get a better idea of the need for oral and dental care following HSCT.

**2. What would you like to do next in this area to follow on from this work?**

The results of our study suggest that the prevalence of xerostomia and having a painful oral mucosa is high in HSCT survivors as compared to healthy controls. These problems may lead to irreversible damage to the dentition, affecting general health and contributing to a decreased quality of life.

In the future we plan to perform a prospective, longitudinal study into objective and patient-reported oral complications associated with HSCT, using validated scales. The ultimate goal is to develop multi-professional oral supportive care protocols aimed at preventing and treating these complications.