Higher risk of cardiovascular mortality in young edentulous patients treated with dental implants

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Impact

The observation of higher risk for cardiovascular disease (CVD)-related mortality in younger edentulous patients nowadays could be a reason for increased awareness of health problems in these patients but the causal relationship for this observation is not yet known.

Female, 33 years old. Treated with fixed implant-supported dental prostheses in the lower jaw.

Background and Aim

Previous research has reported an association between tooth loss and increased patient mortality, while, the causal relationship has not been elucidated as yet.

The purpose of this study was to examine the cause of death in edentulous implant patients at one referral clinic in relation to a reference population in different age groups.

Methods and Materials

Altogether, 3885 consecutively treated implant patients were provided with implants in the edentulous jaw between 1986 and 2014. Of this group, 2098 patients (54%) were deceased during the follow-up.

Data on the causes of death for all deceased patients were compared to data from the entire Swedish population, using the national cause of death register (Swedish Health and Welfare Statistical Database). Based on gender, age of the patient at implant surgery and time point of decease, the standardized mortality ratios (SMR) were calculated as the observed number of deaths relative to the expected number. The data collected from these studies were analyzed using SAS/STAT® software. The study has been approved by the local Ethics Committee in Gothenburg.

Results

In the present study altogether 1308 patients were younger than 60 years at the time of implant surgery. Normally, cancers are the most common cause of death in the entire Swedish population in the age range 45-59 years. In contrast, cardiovascular mortality was the most common cause of death in the present study group. In total 386 patients of the younger patients died during the inclusion period of whom 76 of them were below an age of 60 years when reported as deceased.

Over the entire inclusion period (1986-2014) there was no statistically significant difference in the overall pattern of causes of death between the study group and the normal reference population, except for CVD-related mortality. Edentulous implant patients below 60 years of age who had been treated with implant surgery between 1986-2014 showed significantly increased mortality due to CVD compared to the reference population of the same age and gender (p<0.05).

Conclusions

Younger patients (<60 years) who are treated today with implants in the edentulous jaw may present an increased risk for early mortality due to cardiovascular diseases. However, the causal relationship requires further studies.

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