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Hypertension and Dental Implants: A Systematic Review and Meta-Analysis

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Purpose: The aim of the present systematic review was to investigate the influence of hypertension on the dental implant failure rate. **Methods:** An electronic search was undertaken in four databases, plus a manual search of journals. The I² statistic was used to check heterogeneity and the inverse-variance method was used for the meta-analysis. The estimate of relative effect for dichotomous outcome was expressed as an odds ratio (OR). **Results:** The review included 24 publications. There were 4874 implants (257 failures) placed in hypertensive patients and 16,192 implants (809 failures) placed in normotensive patients. A pairwise meta-analysis showed that implants in hypertensive patients did not have a higher risk of failure than implants placed in normotensive patients (OR 1.100, $p = 0.671$). The log OR of implant failure between hypertensive and normotensive patients did not significantly change with the follow-up time ($p = 0.824$).

Conclusions: This review suggests that implants in hypertensive patients do not present higher odds of failure in comparison to normotensive patients. However, further research on this topic, with the use of more rigorous criteria to diagnose patients as being hypertensive, as well as clearer information about the pharmacological management of the condition in the patients, is recommended.

Keywords: dental implant; failure; hypertension; high blood pressure; systematic review; meta-analysis; meta-regression

Biography

Dr. Salma El-Disoki is a distinguished academic and practitioner in the field of Oral and Maxillofacial Surgery and Oral Medicine. She is affiliated with the Department of Oral and Maxillofacial Surgery and Oral Medicine at the Faculty of Odontology, Malmö University, Sweden.