Abstracts of articles published in important Implantology, Prosthodontics and Periodontics journals from around the world

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The epidemiology of peri-implantitis

Mombelli A, Müller N, Cionca N. *Clin Oral Implants Res. 2012 Oct;23 Suppl 6:67-76.*

Aim: To review the literature on the prevalence and incidence of peri-implantitis. **Methods:** Out of 322 potentially relevant publications we identified 29 articles concerning 23 studies, with information on the presence of signs of peri-implantitis in populations of at least 20 cases. **Results and Conclusions:** All studies provided data from convenience samples, typically from patients who were treated in a clinical center during a certain period, and most data were cross-sectional or collected retrospectively. Based on the reviewed papers one may state that the prevalence of peri-implantitis seems to be in the order of 10% implants and 20% patients during 5-10 years after implant placement but the individual reported figures are rather variable, not easily comparable and not suitable for meta-analysis. Factors that should be considered to affect prevalence figures are the disease definition, the differential diagnosis, the chosen thresholds for probing depths and bone loss, differences in treatment methods and aftercare of patients, and dissimilarities in the composition of study populations. Smoking and a history of periodontitis have been associated with a higher prevalence of peri-implantitis.

A comparison between endodontics and implantology: an 8-year retrospective study

Vozza I , Barone A , Quaranta M , Paolis G , Covani U , Quaranta A. *Clin Implant Dent Relat Res. 2013 Feb;15(1):29-36.*

Aim: The aim of this study was to compare endodontic and implant treatments and to evaluate their predictability over an 8-year period on the basis of an analysis of survival data and a retrospective clinical study. **Material and Methods:** A group of 40 partially edentulous patients were selected for this study. Their teeth had been endodontically treated and rehabilitated using gold alloy and ceramic restorations. In these patients, 65 osseointegrated implants were restored with single gold alloy-ceramic crowns and monitored on a yearly basis for 8 years with standardized periapical radiographs, using a polivynilsiloxane occlusal key as a positioner. A total of nine patients who did not attend the yearly follow-up were excluded from the study. The Melloning and Triplett criteria were used to evaluate the clinical results obtained in the implant sites. The clinical results of the 56 endodontically treated teeth, restored with the fixed prosthesis of 40 patients, were analyzed according to probing depth as well as an assessment of the correct apical and coronal seals. The survival rate was calculated using the Kaplan-Meier method and the statistical significance was calculated using the chi-square test. **Results:** During the follow-up of the

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endodontically treated elements, seven failures were detected (83.34%) and the success rate of implants inserted in the same patients was equal to 80.8%, with nine implants lost in 8 years. The survival analysis of the elements treated with both therapies was not statistically significant (p = 0.757) and the confidence interval was between 0.2455 and 2.777. **Conclusion:** In view of the superimposable results between the two therapies, it should be noted that the endodontically treated teeth could be interested by different pathologies while the restoration of the atrophic edentulous ridge with an implant support is predictable when patients comply with correct oral hygiene and when the occlusal loads are axially distributed in implant-protected occlusion.

Effectiveness of a mouthrinse containing active ingredients in addition to chlorhexidine and triclosan compared with chlorhexidine and triclosan rinses on plaque, gingivitis, supragingival calculus and extrinsic staining

Kumar S, Patel S, Tadakamadla J, Tibdewal H, Duraiswamy P, Kulkarni S. *Int J Dent Hyg. 2013 Feb;11(1):35-40.*

Aim: To assess the effectiveness of three different mouthrinses — chlorhexidine, triclosan + sodium fluoride and chlorhexidine + triclosan + sodium fluoride + zinc chloride — on plaque, calculus, gingivitis and stains and to evaluate the occurrence of adverse effects with these three treatments. **Methods:** Forty-eight healthy subjects participated in a double-blind, randomized, parallel experiment and were randomly allocated to any one of the three experimental mouthrinses: group A (0.2% chlorhexidine (CHX) gluconate), group B (0.03% triclosan + 0.025% sodium fluoride (NaF) + 12% ethyl alcohol) or group C (0.2% CHX + 0.3% triclosan + 0.3% NaF + 0.09% Zn chloride (ZnCl(2)). All the subjects were assessed for gingivitis, plaque, supragingival calculus and extrinsic stains at baseline and at the end of the 21-day experimental period. **Results:** There was a significant difference (P = 0.046) in the effectiveness for the prevention of gingivitis and plaque, with subjects of group A and group C presenting least and highest gingival and plaque scores, respectively. Significant differences (P = 0.03) were observed for the accumulation of supragingival calculus where the deposition of calculus in group A was nearly double that of the group B, and group B was most effective in the prevention of supragingival calculus. Highest deposition of extrinsic stains was in the group A followed by group C and group B. There was no significant difference between the three treatments for adverse events' occurrence. **Conclusions:** CHX mouthrinse was most effective in controlling plaque and gingivitis but caused greatest deposition of extrinsic stains. Supragingival calculus deposition was least in triclosan + NaF group followed by CHX + triclosan + NaF + ZnCl(2) and CHX. More than half of the subjects reported adverse events during the experimental phase.

Search strategies in systematic reviews in periodontology and implant dentistry

Faggion CM Jr, Atieh MA, Park S. *J Clin Periodontol. 2013 Sep;40(9):883-8.*

Aim: To perform an overview of literature search strategies in systematic reviews (SRs) published in periodontology and implant dentistry. **Material and Methods:** Two electronic databases (PubMed and Cochrane Database of SRs) were searched, independently and in duplicate, for SRs with meta-analyses on interventions, with the last search performed on 11 November 2012. Manual searches of the reference lists of included SRs and 10 specialty dental journals were conducted. Methodological issues of the search strategies of included SRs were assessed with Cochrane collaboration guidelines and AMSTAR recommendations. The search strategies employed in Cochrane and paper-based SRs were compared. **Results:** A total of 146 SRs with meta-analyses were included, including 19 Cochrane and 127 paper-based SRs. Some issues, such as "the use of keywords," were reported in most of the SRs (86%). Other

issues, such as "search of grey literature" and "language restriction," were not fully reported (34% and 50% respectively). The quality of search strategy reporting in Cochrane SRs was better than that of paper-based SRs for seven of the eight criteria assessed. **Conclusion:** There is room for improving the quality of reporting of search strategies in SRs in periodontology and implant dentistry, particularly in SRs published in paper-based journals.

Rehabilitation of deficient alveolar ridges using titanium grids before and simultaneously with implant placement: a systematic review

Ricci L, Perrotti V, Ravera L, Scarano A, Piattelli A, Iezzi G. *J Periodontol. 2013 Sep;84(9):1234-42.*

Aim: The aim of the present study is to perform a systematic review of the literature on the use of titanium grids for implant surgery before and simultaneously with implant placement and to assess the success rate of the procedure, as well as survival and success rates of implants placed in the regenerated areas. **Methods:** Medline was used to identify studies in English published from 1996 to 2011. An additional hand search was performed of the relevant journals and of the bibliographies of the papers identified. Articles retrieved by two independent authors were screened using specific inclusion criteria: randomized controlled trials (RCTs), controlled clinical trials, and prospective clinical studies regarding vertical and/or horizontal regeneration of the alveolar ridge using titanium grids, in association or not with biomaterials, before and simultaneously with implant placement. **Results:** Six articles were selected, including a total of 79 patients, 87 titanium grids, and 141 implants. Twenty-four implants were placed simultaneously with titanium grids, and 117 implants were inserted after a period of 4 to 9 months. Titanium grids in combination with autogenous bone were used in 43 cases, 25 in combination with a mixture of autogenous bone and bone substitutes, 14 in association with bone substitutes, five using only titanium grids. The overall success rate of the regenerative procedures was 98.86%; the overall survival and success rates of implants were 100% and 93.2%, respectively. **Conclusions:** The main limit of the present systematic review is the scarcity of papers with an adequate and consistent methodology regarding the data collection and analysis and the lack of RCTs and large well-designed long-term trials. Survival and success rates of implants placed in the areas treated with titanium grids were comparable to those of implants placed in native, non-regenerated bone and of implants placed in bone regenerated with resorbable and non-resorbable membranes.