

Relation of Cad/Cam Zirconia Dental Implant Abutments with Periodontal Health and Final Aesthetic Aspects; A Systematic Review

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Abstract : Aim: New approaches have been introduced to improve soft tissue indices of the dental implants. This systematic review aimed to investigate the effect of computer-aided design and computer-assisted manufacture (CAD/CAM) zirconia (Zr) implant abutments on periodontal aspects. Materials and Methods: Five electronic databases were searched thoroughly based on prior defined MeSH and non-MeSH keywords. Clinical studies were collected via hand searches in English language journals up to September 2020. Interproximal papilla stability, papilla recession, pink and white esthetic score (PES, WES), bone and gingival margin levels, color, and contour of soft tissue were reviewed. Results: The initial literature search yielded 412 articles. After the evaluation of abstracts and full texts, six studies were eligible to be screened. The study design of the included studies was a prospective cohort (n=3) and randomized clinical trial (n=3). The outcome was found to be significantly better for Zr than titanium abutments, however, the studies did not show significant differences between stock and CAD/CAM abutments. Conclusion: Papilla fill, WES, PES, and the distance from the contact point to dental crest bone of adjacent tooth and inter-tooth-implant distance were not significantly different between Zr CAD/CAM and Zr stock abutments. However, soft tissue stability and recession index were better in Zr CAD/CAM abutments.

Keywords : zirconia, CAD/CAM, periodontal, implant

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