

Orthodontic space closure versus implant of missing maxillary central incisors: 5-year follow-up

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Aim: Orthodontic treatment options for patients with missing maxillary incisors include either space closure or space reopening, which is done for implant insertion, tooth autotransplantation, or cantilever-bonded prosthetics. This study compared the aesthetics, periodontal health, and functional outcomes of orthodontic space closure versus implant insertion in patients with missing upper central incisors.

Materials and Method: The retrospective study group consisted of 10 patients treated with orthodontic space closure (six men, four women, mean age 19 ± 2.1 years) and 10 patients treated with implant insertion (five men, five women, mean age 20 ± 1.5 years). Tooth mobility, plaque index, pocket depth, temporomandibular joint function, and the patients' opinions regarding the results were recorded. T-test was used to evaluate the data.

Results: 5 years after treatment, all patients were equally satisfied with the appearance of their teeth. No significant differences were found in tooth mobility and the prevalence of signs and symptoms of temporomandibular joint dysfunction. However, clinical examinations showed significant infra occlusion in all implant patients. ($P < 0.05$) Plaque accumulation and pocket depth were also significantly higher in implant insertion patients. ($P < 0.001$)

Conclusion: Regarding aesthetics, orthodontic space closure and implant of missing maxillary incisors produced similar results. Neither of the treatments impaired temporomandibular joint function. Space closure patients have better periodontal health in comparison with implant insertion patients.

Biography

Abdolreza Jamilian is a researcher and specialist in the field of Orthodontics. He received his D.D.S. (1991), MSc in Orthodontics (1998), and Fellowship of Orthognathic Surgery & Craniofacial Syndromes (2010) from the Shahid Beheshti University in Tehran, Iran. He obtained his European Board of Orthodontics in 2013. Now, he is a Module leader at the City of London Dental School, University of Bolton, London, UK, and a professor of Orthodontics at Azad University in Tehran. He has lectured at several international congresses and has been a consultant for various journals. He has published over 200 original peer-reviewed research and review articles, 15 book chapters, and more than 300 scientific communications. He holds three patents in the United States Patent and Trademark Office. His areas of interest include class 3 malocclusion and maxillary deficiency.

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