Complete-Arch Implant Prosthodontics: Fixed, Removable, or Removable-Fixed?

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Complete edentulism is a common clinical situation. Losing teeth and living with reduced or absent dentition can be psychologically traumatic, socially damaging, and functionally limiting to the individual affected.[1] Complete denture, implant overdenture, and fixed-full-arch implant restorations are established and widely practiced treatment options. Dental implants have provided varieties of fixed abutments and/or removable attachment systems in restoring completely edentulous arches to overcome the problem of retention and stability of the conventional complete dentures.[2] The researchers and clinicians are constantly exploring better implant-treatment versions that are predictable, accurate, user-friendly, and provide a long-term success and survival.

Messias et al[3] evaluated outcomes, methods of assessment of implant-supported fixed or removable prostheses rehabilitating the full-arch edentulism from total 421 studies published between 2011 and 2021 evaluating the implant failure/survival, marginal bone levels, complications, clinical and patient-reported outcomes. However, a great heterogeneity was observed in the criteria to define implant failure or survival and implant success which prevented the comparison across studies. The studies, which have directly compared implant fixed and removable prostheses, indicated that both treatments were associated with high implant survival rates but were impacted by the need for post-placement mechanical maintenance or prosthetic complications.[4] Patient satisfaction was high with each prosthesis, with three studies revealing higher satisfaction with fixed prostheses and five studies finding no difference.[4]

Removable-Fixed attachment systems[5] are being introduced in recent years which are designed to provide technically fixed full-arch prosthesis for patients, by simply increasing the retentive strength of removable attachments which can only be removed by clinicians with the help of special removal-kit. These removable-fixed attachments exhibit the advantage of both fixed and removable prosthesis by enhancing the function and esthetics with relatively less invasive procedures.[5] The patients who are current denture users or using implant overdentures, can be easily converted to such removable-fixed prosthetic option. Using the same removable attachments, patients can easily transition between fixed and removable solutions without the cost and discomfort of changing abutments.[5] The patient fees are in-

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between overdentures and screw- or cement-retained fixed prosthesis, may be due to the reduced chair-time, and decreased lab and component costs.

Since such prosthetic attachments are being picked up directly in patients' mouth, the accuracy of the fit of the prosthesis can be predictable and can nullify structural errors incorporated during the fabrication of the full-arch prostheses. However, such hypotheses need to be proven with controlled clinical studies. Converting the 2-implant overdentures into 4- or 6-implant supported prosthesis is advantageous.[6,7] Four-implant overdentures are easier to clean but more painful in comparison with the fixed prosthesis.[7] Less has been explored regarding the peri-implant health and patient/clinician reported outcomes about 4- or 6-implant supported fixed, removable, and now removable-fixed prostheses.[6-8] There might be a great interest and demand amongst clinicians and patients for the removable-fixed attachment systems in future and suggested to explore this interesting concept via powered prospective clinical studies.

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