



Overview of Various Ways of Dental Implants and Prostheses

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INTRODUCTION

In edentulous patients who received soft-milled cobalt-chromium-ceramic full-arch screw-retained implant-supported prostheses, this retrospective research evaluated results and problems linked to implants and prostheses (SCCSIPs). Patients took part in a yearly oral check-up program that included clinical and radiographic evaluations after receiving their final prosthesis. Biological and technological problems were rated as significant or minor after the outcomes of implants and prostheses were assessed. For patients with totally missing jaws, full-arch, implant-retained prostheses have been demonstrated to be an effective therapy. For these prosthetics, metal-ceramic, metal-acrylic resin, veneered zirconia, and monolithic zirconia are offered as restorative materials. Due to its aesthetic results and biocompatibility, veneered or solid zirconia is frequently preferred. However, a retrospective research with a mean follow-up of 72.35 months that assessed prosthesis complications in complete-arch prosthetics of monolithic or micro-veneered zirconia discovered a very high likelihood of complications (50%).

DESCRIPTION

On the other hand, a recent systematic review that compared the biological and technical outcomes of metal-resin vs. metal-ceramic full arch implant-supported prostheses reported that a significantly greater incidence of developing biologic complications of peri-implantitis, mucositis, and mucosal recession around the implants, as well as technical complication, such as wear and veneer fracture, were in the metal-resin group. Another retrospective research found that around implants sustaining metal-acrylic resin prosthetics as opposed to metal-ceramic prostheses, there was noticeably more plaque buildup and soft tissue hypertrophy. An agreement research on prosthodontics and implant dentistry determined that met-

al-ceramic was the best option for implant-supported fixed partial dentures despite the fact that it has drawbacks. A complete arch implant-supported prosthesis is less likely to experience mechanical issues than a single implant-supported crown, which is an essential distinction to make. The torsion pressures in a full arch may be sustained by numerous implants, which is a likely reason.

Due to their superior resistance to biting pressures, Porcelain Laminate Veneers (PLV) have gained popularity in recent years for repairing discoloured, eroded, cracked, and disintegrated teeth. According to clinical research, PLV survival rates in 10 to 21 years vary from 82% to 96%. The durability of PLV restorations is influenced by a number of variables, including dental anatomy, the style of preparation, the depth of the preparation, the adhesive and resin cement, the occlusal relationship, and parafunctional behaviour. Therefore, the preparation design is crucial for avoiding uneven stress distribution on restored teeth, getting a resilient adhesion, and regulating over-contour. The success of porcelain composite veneers over the long term is influenced by preparatory design as well as the variation in elasticity modulus of adhesive epoxy cements. The repair assembly's use of resin cements' coverage capabilities allows for the prevention of small flaws and micro cracks from spreading, increasing the fracture resistance.

Prior research has been done on the effects of preparatory design and material characteristics on the therapeutic effectiveness of PLV restorations. Within 2.5-10 years of clinical performance, the adhered surfaces for ceramic veneers and traditional porcelain revealed a debonding rate of 5.6%-14%. An adequate bond strength between the tooth and the restorative substance is ensured by strong adhesive cementation. The strengthening impact of resin cement on PLV restorations has been the subject of numerous studies, but little is known about the longevity of the tooth-cement-restoration assemblage. It is

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therefore unknown how the strength of the resin cement interface affects the mechanical characteristics of the cement substance used for the bonded ceramic veneer repair.

CONCLUSION

In comparison to restorations using butt joints, PLV restorations with the palatal chamfer involving the incisal border design produce physical reactions that are more like those of a good tooth. The PLV restorations with butt joint preparation revealed

greater stress distributions in comparison to those with palatal chamfer preparation, regardless of the size, angle, and elasticity modulus of the resin cement. The adhesive coating, dental tissues, and restorative materials were subjected to marginally higher loads as the resin cement's elasticity modulus increased. Within the constraints of this retrospective research, we can infer that full-arch soft-milled cobalt-chromium-ceramic implant-supported prosthetics in edentulous patients have excellent total survival rates of 97.1% for implants and 100% for prostheses.