Cantilever Fixed Partial Denture Survival For 10+ Years

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Introduction

Cantilever fixed partial dentures are prostheses with one end that is unsupported by a tooth or implant. In recent years, cantilevers, especially distal extension cantilevers, have faced controversy. Although cantilevers are a time and cost-effective alternative to implants, many dentists hold the belief that cantilevers do not last as long as titanium implants. In the past ten years, there has been a decrease in use of cantilevers in general dentistry. Correspondingly, there has been a drastic increase in patients' interest in implants. As a result, more general dentists have been referring patients to prosthodontists and other specialists. We present a case involving two distal extension cantilevers and one mesial extension cantilever, lasting 15, 12, and 10 years.

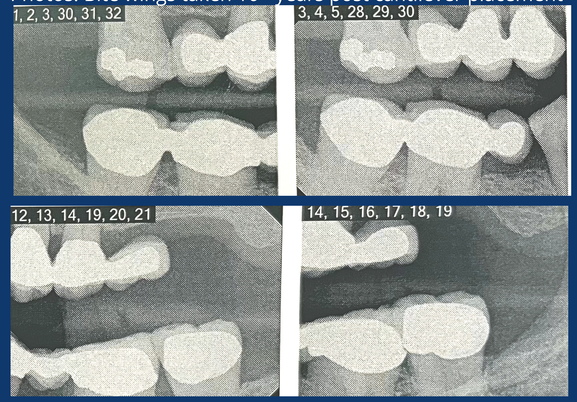
Case Presentation

A 48 year old woman with a history of smoking presented with an edentulous space at #3 post-extraction. The patient was presented with all available treatment options, including titanium implants, and the patient opted for a cantilever fixed partial denture with distal extension.

Photos and Treatment

A cantilever was cemented using glass ionomer resin spanning teeth 3-4-5. The cantilever was maintained successfully for more than three years, at which point the patient required another replacement for an additional missing tooth, #29.

Photos: Bite wings taken 10+ years post cantilever placement



Due to the success of the first, the patient again opted for a cantilever fixed partial denture, this time with mesial extension. The cantilever was formed spanning teeth 29-30-31. Both cantilevers were maintained successfully and a third distal extension cantilever was added to a third site after another two years, to replace #14. The cantilever was formed spanning 12-13-14. All three cantilevers continue to be successfully maintained beyond ten years.

Discussion

The conversation revolving around this case is whether general dentists should recommend implants or cantilevers to their patients. The success rate of implants is quite high at 84%. However, the success rate of cantilevers is even higher at 92%. This difference in success is likely due to the fact that there are many more complications that impact the survival of implants as opposed to cantilevers. Implants are subject to a higher rate of infection, known as peri-implantitis, while the main cause of cantilever failure is due to crown fracture if the professional is not diligent about occlusion during placement. The cost between the two treatment options differs drastically, starting around $5000 per implant and restoration and starting around $3000 for a fixed cantilever bridge. The decrease in use of cantilevers by dentists in the past ten years. This corresponds with an increase in the use of titanium implants to replace missing teeth. However, the prevailing myth that cantilevers do not last an extended period of time is unfounded, as this case shows that with the proper technique, cantilevers can last more than ten years. This case is not unique in its survival, but rather it suggests that general dentists should consider recommending cantilevers as a viable treatment option to a range of patients.

Conclusion

All three cantilevers have been maintained without issue for over a decade. Therefore, the findings of this case suggest the belief that titanium implants outlast cantilevers is unfounded, as many implants fail within 10 years due to various complications.
The cantilever fixed partial denture offers a cost-effective, non-invasive, and expedient treatment plan for general dentistry patients requiring tooth replacement. Cantilevers are an alternative option to implants that is more accessible to general dentists, due to the elimination of possible bone grafting or sinus elevation prior to implant placement. In addition to this, cantilevers are often a viable option for patients who are not ideal candidates for implants, such as those with uncontrollable diabetes or heavy smokers. It is recommended that general dentists educate patients on their option of a cantilever fixed partial denture when appropriate.

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