

Restoring Function and Form: Managing Advanced Caries and Edentulism Through Interdisciplinary Treatment Planning

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CASE SUMMARY

This case involves a 32-year-old Spanish-speaking Hispanic female who presented to our emergency clinic with pain associated with tooth #5. Following diagnosis, root canal therapy was performed. A comprehensive examination revealed extensive caries risk and partial edentulism, with a chief concern of replacing #7-10. Utilizing an evidence-based approach, we implemented the CAMBRA (Caries Management by Risk Assessment) protocol to guide disease control¹, supplemented with oral hygiene instruction and CAMBRA products, which has been shown to reduce caries incidence by 20% to 38% in high-caries-risk adult patients.

Interdisciplinary care played a central role in the treatment plan. The patient underwent quadrant scaling and root planing followed by periodontal re-evaluation to ensure periodontal stability prior to restorative care. Composite restorations were placed in a staged, caries-controlled manner across the majority of the patient's remaining dentition.

To preserve tooth #5 as a future abutment tooth, a zirconia survey crown was designed to accommodate a maxillary removable partial denture, restoring both esthetics and function. The use of evidence-based materials and treatment sequencing ensured the long-term success of the prosthesis.

ORAL DIAGNOSIS & TX PLANNING

Perio Dx: Generalized mild chronic periodontitis(Stage I Grade B)

Caries Risk: High

URGENT PHASE:

- Endo Tx #5

DISEASE CONTROL PHASE:

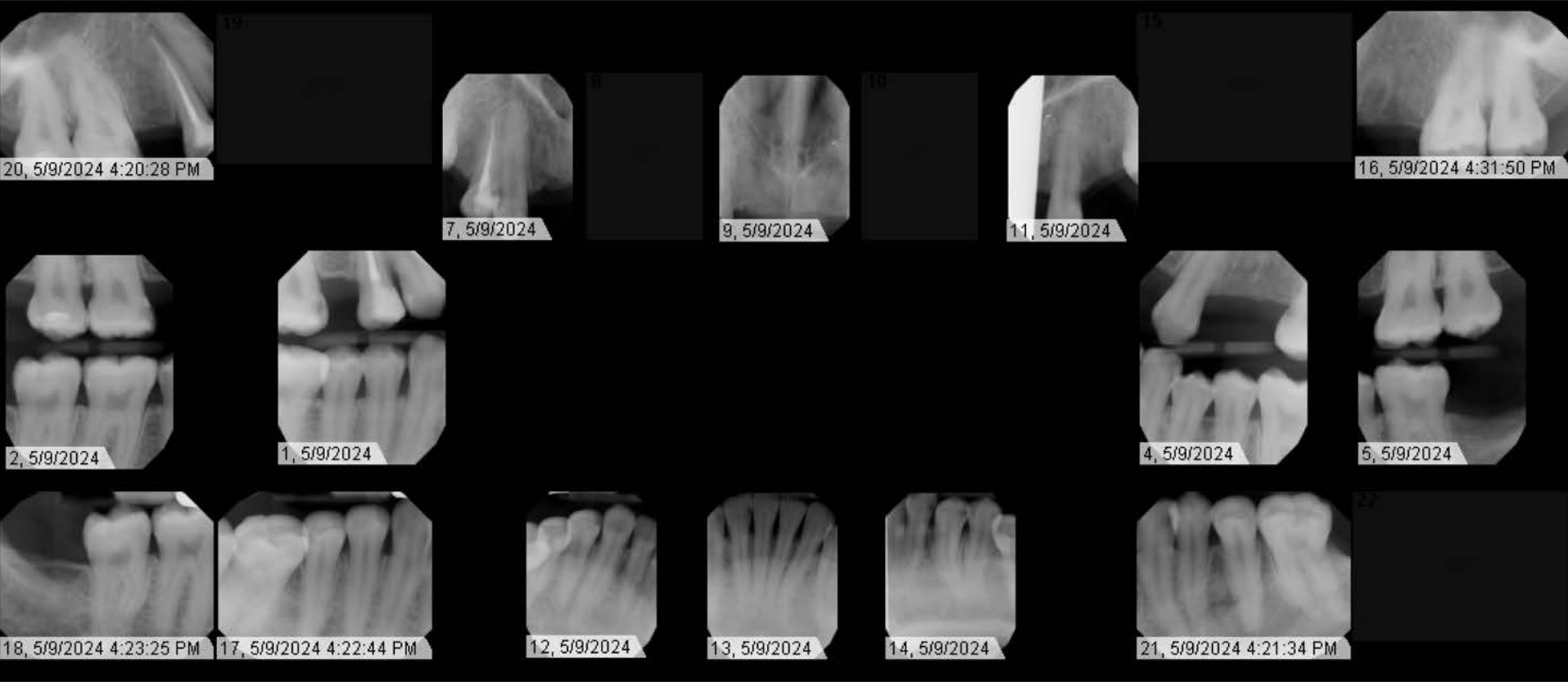
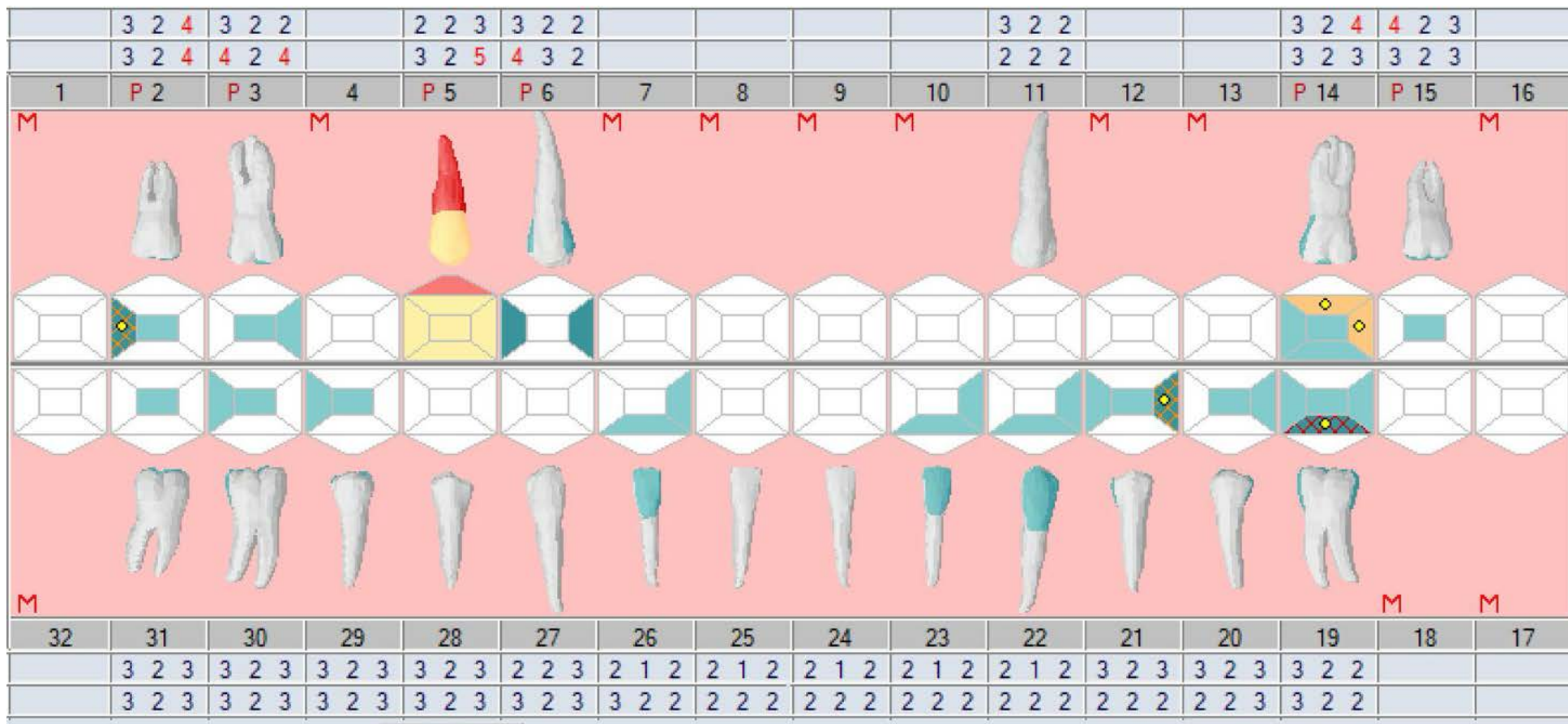
- Perio – OHI, SRP 4 Quads, ITE
- CAMBRA - High Fluoride Toothpaste, CariFree Rinse
- Restorative – Caries control #2DO, 3MO, 14MOL, 15O, 19MOD, 20DO, 21MO, 22DF, 23DF, 26MF, 29DO 30DO, 31O

RESTORATIVE PHASE:

- Fixed - #5 Zirconia Survey Crown
- Removable - Upper Partial Denture

MAINTENANCE PHASE:

- Recall ODTP + SPT
- CAMBRA Products



CASE CONSIDERATIONS

Considering my patient's chief concern of replacing her missing front teeth, my treatment plan was centered around stabilizing my patient's oral health in order to support a long-term prosthesis for her maxillary edentulism. With finances and treatment time being significant factors for my patient, I wanted a treatment plan that would be esthetic, functional, and maintainable for my patient over a long period of time. Understanding that RPDs have a shorter treatment time and have been shown to improve oral health-related quality of life (OHRQoL) especially when restoring edentulism in the maxillary anterior², my patient chose to pursue this treatment plan option as opposed to implants.

Monolithic zirconia survey crowns have a high survival rate when used as abutment teeth for RPDs³, stressing the importance of sufficient occlusal reduction on #5 in this case for a distal rest seat. Given this patient's upper lip mobility upon smiling, it may have been advantageous to select a more esthetic clasp design such as an I-bar⁴ for the maxillary canines, rather than an Aker's clasp system.



#5 Zirconia Survey Crown Prep, #26 MF Comp & #23 DF Comp

CONCLUSION & REFLECTION

Managing this case was a transformative experience focused not just on restoring a smile, but also the patient's confidence and long-term oral health. An interdisciplinary, evidence-based treatment approach—including endodontic therapy, periodontal care, CAMBRA protocols, and prosthodontic planning—allowed for successful disease control and functional rehabilitation. Strategic decisions, like designing a zirconia survey crown for future prosthetic support, emphasized the importance of treatment planning with the final outcome in mind.

This case also highlighted the critical role of patient-centered communication. Delivering care in Spanish required cultural sensitivity and sincere connection, emphasizing that trust is just as vital as clinical skill. In terms of personal growth, this case solidified my belief that dentistry is deeply intertwined with humanistic care. It also reinforced the need for continual learning, & collaboration—recognizing when to seek guidance from faculty and specialists to achieve the best possible patient outcome.

ACKNOWLEDGEMENTS & SOURCES

I would like to extend my sincere gratitude to the 3C Group Practice faculty for their unwavering mentorship and support throughout the management of this case. I am also deeply thankful to removable prosthodontic faculty, Dr. Curtis and Dr. Pham, whose expertise was instrumental in completing this case with a comprehensive, patient-centered approach. Each faculty's support and contributions embody the core values of the University of the Pacific, Arthur A. Dugoni School of Dentistry—humanism, excellence, and integrity—and allowed this to be a truly meaningful learning experience.

- Featherstone, J D B, and B W Chaffee. "The Evidence for Caries Management by Risk Assessment (CAMBRA®)." *Advances in dental research* vol. 29,1 (2018): 9-14. doi:10.1177/0022034517736500
- Choong, Elaine Kar Man, et al. "Oral health-related quality of life (OHRQoL) after rehabilitation with removable partial dentures (RPDs): A systematic review and meta-analysis." *Journal of Dentistry* 127 (2022): 104351. <https://doi.org/10.1016/j.jdent.2022.104351>
- Aziz, Ahmed M., Hiba Alshabab, and Adam Bin Husein. "Outcomes of surveyed monolithic CAD/CAM zirconia crowns for removable partial denture abutments: A 7-year clinical study." *Journal of Prosthodontic Research* (2025): JPR_D_24_00183. https://doi.org/10.2186/jpr.JPR_D_24_00183
- Richert, Raphaël, et al. "Analytical model of I-bar clasps for removable partial dentures." *Dental Materials* 37.6 (2021): 1066-1072. <https://doi.org/10.1016/j.dental.2021.03.018>

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