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Digital Smile Design in Comprehensive Aesthetic Rehabilitation: A Case Report on Virtual Treatment Planning and Clinical Implementation

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ABSTRACT:

Background: Digital Smile Design (DSD) represents a revolutionary approach in aesthetic dentistry, enabling precise treatment planning through digital visualization and patient communication.

Case Presentation: A 35-year-old male patient presented with chief complaint of unaesthetic appearance due to missing maxillary and mandibular anterior teeth. Clinical examination revealed missing maxillary central incisors and lateral incisors as well as missing mandibular central and lateral incisors. Digital Smile Design protocol was implemented using 3Shape smile design simulation.

Management: The DSD workflow included digital photography, video recording, and virtual treatment planning. Crown height and shape was digitally planned using digital mock-ups.

Results: The DSD protocol enabled precise treatment planning and enhanced patient communication. The final outcome of the prosthesis was satisfactory, the patient was satisfied and showed positive response to the cemented prosthesis.

Conclusion: Digital Smile Designing proved effective in comprehensive aesthetic rehabilitation, improving treatment predictability and patient satisfaction.

Keywords: Digital Smile Design, Aesthetic Dentistry, Virtual Treatment Planning, Smile Rehabilitation, Computer-Assisted Dentistry.

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