

The Kennedy Class 1 Partial Edentulism: The Possibilities for Treatment

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As previously said, the Shortened Dental Arch (SDA) was defined as a class of dentition commonly recognized in elderly with an intact anterior region and a reduction in the occluding pairs of posterior teeth, starting posteriorly. One of the very first prosthodontist who dealt with this specific type of partial edentulism was Arnd Kayser, the Dutch who proposed a treatment strategy in the management of reduced dentitions usually conducted in partial edentulous elderly. From that moment, the SDA has been extensively investigated, for almost three decades, in order to find out what is the best choice for rehabilitation of bilaterally shortened dental arches i.e. the Kennedy Class 1 partial edentulism. At first, some schools proposed not to replace absent posterior teeth and to apply the SDA concept if patients did not suffer from masticatory inability, poor esthetics or temporomandibular disorders. Furthermore, the removable partial dentures whether clasp or attachment retained are still traditional restorations used to achieve satisfied masticatory performance in patients with poor mastication. Some researchers proposed metal ceramic restorations as an alternative to RPDs, where all the remaining teeth are splinted with a cross-arch fixed partial denture (FPD) with bilaterally cantilever extensions to improve oral comfort during mastication. Nowadays, the rehabilitation using implant-supported metal-ceramics is the current trend in prosthodontics/oral rehabilitation whenever it permits socioeconomic or systemic factors. Various experiences in rehabilitation of the SDA developed different attitudes on appropriate treatment for compensation of the posterior tooth-loss. Esthetics, chewing ability, oral function, oral comfort, occlusal stability, temporomandibular disorders, and tooth migration in patients with SDA were investigated using different approaches, *in vivo* and *in vitro* analyses. Additionally, the Finite Element Analysis and the Digital Image Correlation Method have visualized stress/strain generated in human jaws with SDA during occlusal loading conditions. These current methods have contributed to the understanding of biomechanical behavior of the supported tissues of the jaws with SDA. Still, in current dental practice the question is whether the SDA has to be rehabilitated using complex restorative treatment or not? The SDA concept is mainly based on the fact that the anterior and premolar regions are functionally and esthetically strategic parts of the dentition, with the highest priority in rehabilitation. Some patients don't have any problems with only anterior and premolars teeth left if the normal oral function is achieved; unless they have masticatory inability, molars are not necessary considering their high-risk for caries and periodontal diseases. Thus, the use of the SDA concept as a standard protocol is equally reasonable when treating SDA patients especially considering the absence of any complaints on their mastication or TMJ. Sometimes it is better to preserve what is left than try to restore what has lost long ago.

It will be useful, from the prosthodontics viewpoint to conduct more studies about adequate treatment of patients with bilaterally shortened dental arches. Maybe the properly selection of patients into different groups in accordance with their oral status and demands will be the crucial key when considering the best therapy choice for every single patient.

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