Guest Editorial

Root Resections Revisited

It has been almost 10 years since the article on the "evaluation of root resections over a 10-year period" was published.[1] Since that time, many other articles have been published that have either corroborated or refuted our results.[2,3] In addition, the development of osseointegration has placed a new entry into the armamentarium of the periodontists who are trying to prevent their patients from wearing removable prostheses. However, even though many clinicians have referred to our article as a justification to delete root resection as a viable means to retain teeth because we stated that approximately 38% failed after 10 years, there are areas of importance that need to be clarified to set the record straight. These points were not permitted to be included in the original manuscript for editorial reasons, but may have clinical significance. They are the following:

1. The location of the root resection and its failure rate; ie, whether it was a mesiobuccal root, distobuccal root, or palatal root
2. The number of pontics supported by the resected molar
3. The presence of a post in the resected molar
4. The severity of bone loss at the time of the resection

Primarily the article was a compilation of 100 random root resections performed with little regard to a recipe for success. The style of the endodontic technique was not called in to question, neither was the work load to which these teeth were subjected. It was our intention merely to show a procedure that was successful initially, in that we took a furcated molar with chronic inflammation and eliminated not only the furcation but the periodontal pocket associated with it. Yet because parameters of treatment were not established, these results might have changed after different periods of time had elapsed. As we stated in the article, the majority of teeth that failed were not only mandibular molars, but were molars that were supporting more than one pontic. A number of cases had a resected molar carrying one and a half or two pontics, while the contralateral side had a resected molar supporting either a single premolar or small molar pontic. The longer span failed within 5 or so years, while the other side is still functioning in the mouth after 20 years. This was not stated in the paper. We also found the same long-term prognosis when multiple furcated molars were sectioned, thus requiring the remaining roots to carry less load. Does it remind one of the problem with overload in the posterior part of the mouth?

Again, we stated in the article that maxillary molars had half the failure rate of their mandibular neighbors. In fact, in those cases when the mesiobuccal root was resected, there were no failures. Most of those patients have been followed, and to my knowledge, none of those teeth have been removed during the following 10 years.

Understanding the inherent frailties that contribute to tooth fracture in this procedure, such as the necessity to preserve adequate amounts of root structure during endodontic therapy or minimizing the size of the post or eliminating the latter to conserve tooth structure, may add an additional dimension of success.

My opinion of root resection of molars lies somewhere between allowing molar teeth with furcation involvement to remain in that state and resecting all grade II and III involvements. I am convinced that I have given many of my patients years of trouble-free service by having eliminated a chronically inflamed furcation by sectioning one or two roots. I will continue to treat this procedure in the same manner. Conversely, advances in therapy such as isolated cases of guided tissue regeneration utilized to close furcations or osseointegration have given me another substantial choice in treating tooth loss in the posterior part of the mouth.

In the final analysis, treatment is predicated on diagnosis, and root resections are one of the viable choices. One should treat by the conditions that prevail and offer patients the most up-to-date and predictable modality available to dental service. There are too many variables in diagnosis, treatment options, and other considerations to predetermine the "only" treatment for a furcated molar.

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1. Langer B, Stein SD, Wagenberg B. An evaluation of root resections—A 10-year study. J Periodontol 1981;52(12):719–722.
2. Hamp SE, Nyman S. Treatment of furcation-involved teeth. In: Lindhe J (ed). Textbook of Clinical Periodontology, ed 2. Copenhagen: Munksgaard, 1989:515–532.
3. Carnevale G, Di Febo G, Tonelli MP, Marin C, Fuzzi M. A retrospective analysis of the periodontal-prosthetic treatment of molars with interradicular lesions. Int J Periodont Rest Dent 1991;11:189–205.