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EDITORIAL

Peri-implant Diseases: What do We know and What do We need to know?

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As the demand for implant restorative therapy increases worldwide, peri-implantitis is considered to be a major challenge for clinicians. Peri-implant diseases are inflammatory in nature and might be limited to the soft tissue, peri-implant mucositis, or extend to the supporting alveolar bone that is called peri-implantitis.[1] A recent study evaluated implants after 9 years and found that 32% of patients presented with only peri-implant mucositis and 45% with peri-implantitis.[2] The main etiology of peri-implantitis has been considered as interaction of dental plaque biofilms *vs* host inflammatory response.[3] However, we should consider contributing risk indicators that put the patient at higher risk of getting the disease and may exaggerate severity of the disease, including history of periodontitis, excess residual cement, improper position of implants, restorations with overcontouring, smoking, inadequate oral hygiene, diabetes, and last but not least absence of keratinized tissue around implant.[2,3]

Peri-implantitis lesions are larger and more aggressive in comparison to the periodontal lesions around teeth.[4] Peri-implant soft tissue mainly consists of circular fibers and deprives of other periodontal fibers around teeth which compromise the seal around the implant and make it more prone for bacterial invasion to peri-implant tissues.[1] All these information tell us that sooner or later we should expect peri-implantitis, and the best approach to manage the disease, as in many other diseases, is prevention or early diagnosis of the disease.

Diagnostic criteria in early diagnosis of the peri-implant disease are: (a) Soft tissue evaluation: Bleeding on probing, presence of pus, and visual assessment of soft tissue around implant will give us valuable information about diagnosis of the disease at an earlier stage. (b) Radiographic evaluation: Radiographic examinations show us alveolar bone changes over time. Time of prosthetic loading should be chosen to establish baseline criteria to assess the progression of the disease.[1] Probing around implant provides us with valuable information, such as bleeding on probing, which is a key parameter for the diagnosis of peri-mucositis.[1] However, we should not make our diagnosis and treatment planning based on probing depths only since it may underestimate the extent of the lesion, especially in implants with overcontouring.

Owing to the lack of evidence, there is no "gold standard" treatment for peri-implant disease that results in empirical use of different therapeutic modalities. Various therapeutic approaches have been suggested, including oral hygiene instruction, application of antimicrobial gel/mouth rinse, nonsurgical or surgical debridement, resective or regenerative surgery.[3] Another controversial topic is the effectiveness of different treatment approaches in eliminating biofilm on the implant surface. Implant surface debridement can be performed as chemical debridement with different agents or mechanical debridement with curettes or implantoplasty. It is noteworthy to mention that even though rough surface of implant positively affects implant survival rate, but it acts against us by providing a perfect niche for bacterial biofilm when it is exposed to the oral cavity. Unfortunately, we do not have enough clinical studies to provide clinicians with standard therapeutic approach for peri-implant diseases, which highlights the

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need for more controlled randomized clinical trials in this field of implant dentistry.

In conclusion, clinicians should always set their goal to preserve natural dentition as long as possible and do not rush to replace missing teeth with implants. It is also important to emphasize the importance of maintenance for the patients and how it affects the implant survival rate.

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