

Peri-implantitis as a “burden” disease

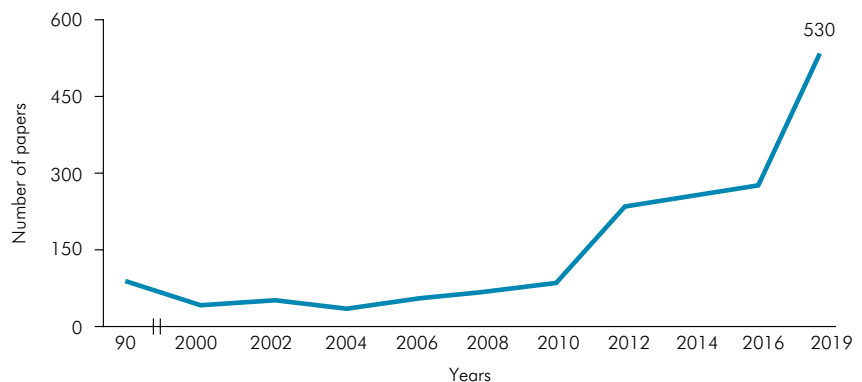
Elcio MARCANTONIO JUNIOR^(a) 
Giuseppe Alexandre ROMITO^(b) 
Jamil Awad SHIBLI^(c) 

^(a)Universidade Estadual Paulista – Unesp, School of Dentistry, Department of Diagnosis and Surgery, Araraquara, SP, Brazil.

^(b)Universidade de São Paulo – USP, Dental School, Department of Stomatology, São Paulo, SP, Brazil.

^(c)Universidade Guarulhos – UnG, Department of Periodontology and Oral Implantology, Dental Research Division, Guarulhos, SP, Brazil.

The use of dental implants to restore partially and totally edentulous subjects is a successful treatment in Contemporary Dentistry. Overall, the global market of dental implants was valued at US\$ 2,91 billion in 2016 with more than 8.809 million implants placed.¹ However, the prevalence of biological complications regarding dental implant supported restorations is growing in the same rate. A plethora of studies showed a main concern about this scenario, wherein the prevalence of peri-implant diseases ranged between 0.4 to 43% after 5 years.² The number of studies about peri-implantitis also raise in the same proportion in the last 30 years according PubMed (Figure), from 86 papers in the 90s’ to a total of 1938 manuscripts until now.



(<https://www.ncbi.nlm.nih.gov/pubmed/?term=dental+implant+and+peri-implantitis>) The papers were grouped biannually, except between 2016 to 2019, when it was considered 3 years period.

Figure. Number of papers published on PubMed using the search strategy “Dental Implant and Peri-implantitis”

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Corresponding Author:
Jamil Awad Shibli
E-mail: jashibli@yahoo.com

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The Consensus report of workgroup 4 of the 2017 World Workshop on the Classification of Periodontal and Peri-Implant Diseases and Conditions³ stated that peri-implantitis is an inflammatory process from a microbial origin that causes bone loss and if not treated could lead to the loss of the implant-supported restoration. The etiology of peri-implantitis is associate with a complex bacterial biofilm⁴ and risk factors as smoking and diabetes. Potential risk factors as occlusal overloading, osteoporosis and local factors related to the surgical peri-implant site might increase the severity of the peri-implant tissues destruction.⁵

In the last decades, several pre-clinical and clinical studies were conducted to recognize and understand this whole complex dental implant-host response system, raising there is no specific and predictable treatment



for peri-implantitis, although several surgical and non-surgical therapeutic approaches have been proposed to manage this complex-multifactorial disease.³ Anti-infective and regenerative therapeutic strategies were used focusing to restore the peri-implant health condition to control the bacterial plaque in the subgingival environment. As the last target, those treatments could also achieve the new bone-to-implant contact in a previously contaminated area, condition called as re-osseointegration.

In this scenario, the special issue of Brazilian Oral Research brings to the light the topic “Peri-implantitis as *Burden Disease*”. Peri-implantitis is a hard task for the clinicians and they must be aware of the complexity and multifactorial etiology of this pathological condition. This volume specifically addresses peri-implantitis conditions for doctors on several point in their clinical learning curve, from clinicians to well experienced specialists. The subject matter is very diverse and comprehensively encompasses an almost complete facets of implant dentistry.

This issue comprises a total of 13 chapters, prepared by a well-consolidate researchers and their group, presenting several systematic reviews and studies, evaluating since the prevalence of peri-implant diseases to non-surgical and surgical treatment of peri-implantitis. Specifically, this volume contains

five systematic reviews that describe the prevalence, bacterial etiology, the impact of risk factors on peri-implant bone loss as occlusal overload, diabetes and abutment-implant interface. Reviews about host osteo-immunoinflammatory response, implant-based factors of peri-implantitis and the role of maintenance/supportive care on the success rates of implant-supported restorations were evidenced-based discussed and clearly presented.

A narrative review of the treatment of soft tissue defects around implants pointed out the importance of augmenting procedures of both soft and hard tissues avoiding or even reducing the effects of local factors on peri-implant diseases. Other narrative review described some new strategies to treat peri-implantitis defects. In addition, three original studies were also included in this special issue. An interesting study evaluated the positive effect of additive manufacturing titanium implant surface topography against bacterial modulation in a multispecies in vitro model with 31 periodontopathogenic species. Other two studies evaluated the clinical features of non-surgical and surgical treatment of peri-implantitis depicting interesting aspects of the disease.

Finally, this special issue drives the reader for an important field of Oral Implantology that surely will provide a nice view of this current literature. Enjoy the ride.

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