Peri-implantitis — absence of evidence to support specific treatment protocols

Which anti-infective therapies are effective in peri-implantitis?

Klinge B, Gustafsson A, Berglundh T. *A systematic review of the effect of anti-infective therapy in the treatment of peri-implantitis. J Clin Periodontol 2002; 29(Suppl. 3):S213–S225*

Data sources Medline was searched to January 2002. Manual searches were made of the Journal of Periodontology, Journal of Clinical Periodontology, International Journal of Maxillofacial Implants, Clinical Oral Implants Research and Clinical Implant Dentistry and Related Research dated to December 2001, and of bibliographies of all relevant articles. There were no language restrictions.

Study selection Human studies were included if they provided a clinical diagnosis and treatment of peri-implantitis. Animal experiments on the treatment of peri-implantitis were also included.

Data extraction and synthesis Information regarding quality and study characteristics was extracted independently by two reviewers. A qualitative summary of included studies was carried out.

Results No clinical randomised controlled trials (RCT) were available. Six human and 15 animal studies were identified. A multitude of treatment regimens, including anti-infective therapy, was reported. The antibiotic regimens varied between studies. No standardised medication protocol was used. Type of antibiotic, dosage, duration and time for initiation of antibiotic treatment were different for all studies, but details were not always reported. A nonmedicated control group was reported in one animal experiment only. The outcomes following anti-infective treatment of peri-implantitis are highly variable.

Conclusions Several anti-infective treatment strategies have demonstrated a beneficial clinical effects in humans but there is insufficient evidence to support a specific treatment protocol. All studies had only a small number of subjects and the study periods, in general, were relatively short. No evidence exists on the significance of anti-infective treatment for the longevity of the implant. Clinical RCT for the treatment of peri-implantitis should be conducted.

Commentary

With the widespread use of implants, clinicians are bound to run into cases of peri-implantitis more and more often. Hence, it is important that we generate guidelines for dealing with the problem. Unfortunately, as pointed out by the systematic review, at the present time it is impossible to determine a gold standard of anti-infective treatment for this infection.

The main reason for the scarce reports on the subject might well be the low incidence of peri-implantitis. A reluctance of clinicians to report cases of failing implants, however, might result in underestimates of the problem. Therefore, an accurate estimation of the prevalence of this pathology is the first missing piece of this puzzle. It should also be considered that an implant, once osseointegrated, may take years to fail due to infection. There are also a considerable number of fixtures that, once affected by peri-implantitis, require replacement and are not amenable to treatment that would lead to their maintenance.

Another confounder adding complication to these studies is the role of trauma from occlusion, another factor that can lead to implant failure. The distinction must be made between fixtures failing primarily because of infection and those where bone loss was induced by traumatic forces and the infection of the peri-implant tissue was only established secondarily. Despite these limitations, the fact remains that only clinical RCT can give a definitive answer as to the best way of dealing with failing implants and the role of anti-infective treatment as part of such therapies. Until then, we are left with whatever information we can gather from the literature.

Even though the studies are not comparable, an overall picture of some clinical improvement emerges with the use of anti-infective therapies, in terms of resolution of inflammation and bone healing. This observation, coupled with our knowledge of the indisputable role of periodontal pathogens in the aetiology of peri-implantitis, indicates that some form of anti-infective therapy must be coupled with any other strategy for dealing with this problem.

Practice point

- Evidence is absent for anti-infective treatment for peri-implantitis so good quality trials are needed.

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