

SCIENTIFIC ARTICLE

Capenergy offers a novel treatment for peri-implantitis

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Overview

Peri-implantitis is defined as an inflammatory process affecting the tissues surrounding a functioning osseointegrated implant, with the consequent loss of supporting bone and of osseointegration. The aetiology of the disease is conditioned by the state of the peri-implant tissue, the design of the implant, the misfit of its components, its external morphology and mechanical overload. The microorganisms most related to implant integration failure are spirochetes and motile Gram-negative anaerobic forms, unless the origin is due to pure mechanical overload.

A novel approach

Conventional treatment is based on correcting technical defects, applying surgical treatment and using decontamination techniques. In this regard, Capenergy is becoming a novel treatment for cases where bacterial colonisation and bone resorption are a complication for implant integrity. The electromagnetic currents emitted by Capenergy technology are being investigated for their potential use in inhibiting bacteria. There is evidence that high-frequency, low-intensity electromagnetic radiation causes antibacterial effects on *Escherichia coli* and other bacteria.

Effect on bone remodelling

Another strong point regarding the benefits of Capenergy is its effect on bone remodelling and osseointegration of the implant. Electromagnetic currents can improve the differentiation of mesenchymal stem cells responsible for the increase in extracellular-matrix synthesis and bone maturation, and a greater proliferation of the mesenchymal stem cells of the bone marrow. They can also increase mineralisation in cultures of osteoblast-like cells during transcription, cell proliferation and differentiation.

Conclusion

Capenergy technology proposes a novel and effective treatment for peri-implantitis, a condition that until now did not have this intervention possibility.

Selected references

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