TITLE: Periowave for Periodontal Diseases: Clinical Effectiveness

DATE: 7 June 2011

RESEARCH QUESTION

What is the clinical effectiveness of Periowave™ for periodontal gum diseases?

KEY MESSAGE

Periowave™ may serve as an adjunctive therapy to traditional scaling and root planing treatments to improve outcomes of patients with chronic periodontitis.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2011, Issue 5), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2006 and May 24, 2011. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

One systematic review and two randomized controlled studies were identified regarding the clinical effectiveness of Periowave™ for periodontal gum diseases. Additional references of...
potential interest regarding Periowave™ and photodynamic therapy can be found in the appendix.

OVERALL SUMMARY OF FINDINGS

A meta-analysis⁴ was performed on three prospective, randomized clinical trials that assessed the effectiveness of Periowave™ as an adjunctive therapy to scaling and root planing (SRP) for the treatment of chronic periodontitis. The endpoints considered were Clinical Attachment Level (CAL), Pocket Depth (PD) and Bleeding on Probing (BOP). The meta-analysis showed that a single adjunctive Periowave™ treatment produced significantly better PD reduction than SRP alone and that an additional retreatment with Periowave™ alone after 6 weeks further improved PD outcomes.

The effectiveness of Periowave™ for patients with chronic periodontitis was also evaluated in two randomized controlled trials²,³ using the same endpoints. In one trial², patients were divided into three groups that received SRP alone; received SRP and a single Periowave™ treatment; or received SRP followed by two Periowave™ treatments. No differences were seen between the three groups for PD and CAL outcomes, but the presence of BOP sites significantly decreased at 12 weeks post-treatment in the group receiving SRP with Periowave™ compared with the group receiving SRP alone. In the other trial³, Periowave™ was also evaluated as an adjunctive therapy to SRP and was found to decrease BOP sites at 6 weeks post-treatment but not at 12 weeks post-treatment.

Periowave™ treatment may serve as an adjunctive therapy to SRP treatment to improve outcomes of patients with chronic periodontitis; however the trials lasted 12 weeks and included less than 200 patients.
REFERENCES SUMMARIZED

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses


Randomized controlled trials


Non-randomized studies
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Periowave™

Additional references

Poster presentation


Press release


Clinical trials

*Completed*


*Recruitment status unknown*


Photodynamic therapy

Review articles

PubMed: PM20640471

PubMed: PM19149517

PubMed: PM16566738

Systematic reviews and meta-analyses

PubMed: PM20024665

PubMed: PM20059412

Randomized studies

PubMed: PM21399951

PubMed: PM20236906

PubMed: PM19823880

PubMed: PM20350153

PubMed: PM18465191


Non-randomized studies


Additional references