

Abaloparatide to Treat Alveolar Bone Loss for Dental Implant Reconstruction

Clinical Need

It is estimated that 2 million patients receive dental implants in the U.S. annually and up to 50% are post-menopausal women with osteoporosis. Dental implants are a highly efficacious treatment modality for tooth loss, but osteoporosis patients may be denied implant therapy due to concerns regarding bone quantity and quality. Predictable treatments to arrest and regenerate lost tissues around teeth and/or tooth-replacing dental implants are limited, and to date, there are no FDA-approved bone anabolic agents available to treat periodontal or peri-implant bone loss.

Solution

A team of researchers led by Dean William Giannobile at the Harvard School of Dental Medicine is investigating the therapeutic potential of a systemic osteoanabolic drug, abaloparatide, to restore lost periodontium or enhance formation of implant-supporting alveolar bone. This approach offers easy dosing to regenerate lost periodontium or improve peri-implant bone density.

Competitive Advantage

By taking advantage of easy delivery of abaloparatide, which is already clinically approved for improvement of bone density in other indications such as osteoporosis, this approach may represent an improved access to drug therapies for periodontal and dental implant-related diseases that might otherwise not be as available due to limited reimbursement through typical dental insurance.

ITP Support

The work supported by the ITP program is focused on the progression to a phase I/II human clinical trial to use on-label systemic abaloparatide to adjunctively treat alveolar bone loss and enable implant treatment for patients with compromised bone quality.

Clinical Translation Pathway

Publications: Christiansen et al. Bone mineral density response rates are greater in patients treated with abaloparatide compared with those treated with placebo or teriparatide: Results from the ACTIVE phase 3 trial. [Bone 2019](#)

IP: US10,568,937 Formulations of Abaloparatide, Transdermal Patches Thereof, and Uses Thereof

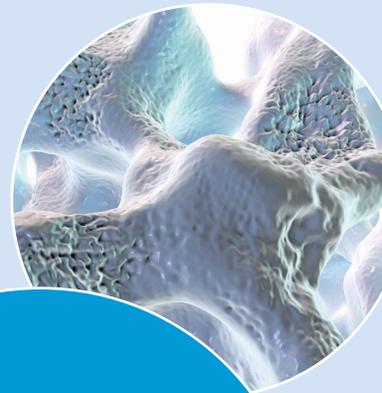
Anticipated regulatory pathway: FDA-approved since 2017; no new IND required for dental implant study in on-label osteoporosis patients

Anticipated commercialization strategy: In development with the MPWRM Commercialization/Market Needs Core and Radius Health.

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“This novel technology offers systemic bone anabolic drug delivery to promote the regeneration of bone lost due to periodontal disease or dental implants needing bone reconstruction.”



<https://hsdm.harvard.edu/giannobile-laboratory>

