Researchers at the University of South Florida have developed a treatment method for skeletal and osteopathic disorders that stimulates bone growth with a natural blood vessel dilator compound.

Disorders that affect bone growth are widespread. An example is achondroplasia, a genetic disorder that results in dwarfism for every one in 26,000 births. Osteoporosis is a common disease in adults that is characterized by a decrease in bone density. Osteoclasts, which are cells responsible for the breaking down of bone tissue, play a role in the progression of osteoporosis. In contrast to osteoclasts are osteoblasts, which are cells directly responsible for the growth of new bone tissue. Current treatment for osteoporosis inhibits the activity of osteoclasts, thus preventing the break-down of old bone. However, at this time there are no bone disorder treatments that focus on stimulating the growth of new bone. In order to change this, treatments must be developed that stimulate the growth of bone-forming osteoblasts.

USF researchers have discovered that the cardiac hormone “vessel dilator” stimulates the proliferation of osteoblasts, resulting in the formation of new bone. These unique findings for cardiac hormone vessel dilator are useful for the treatment of achondroplastic dwarfism and other forms of skeletal dysplasia. Additional treatable disorders include osteopenia, osteoporosis, osteomalacia, hypoparathyroidism, and tumor associated osteomalacia, among others. This technology provides a promising treatment strategy for various disorders related to diminished bone growth.

ADVANTAGES:
- Naturally derived small molecule
- Stimulates osteoblasts to form new healthy bone
- Treat skeletal dysplasia and other skeletal disorders

Direct Stimulation of New Bone Growth with Natriuretic Peptide Vessel Dilator

Vessel Dilator Significantly Enhances Proliferation of Osteoblasts over a Range of Concentrations

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