

# Ipriflavone

## Bone Up on Osteoporosis

by Margy Squires

**A**fter my first article on ipriflavone in 2000, I expected this promising bone builder to make supplement headlines. After all, osteoporosis is a major health threat during menopause. Yet, the press was quiet. Hormone replacement remained the often prescribed therapy to counteract bone loss for estrogen's positive effect on bone building cells.

Then a major study of 16,000 women on estrogen-progestin was stopped in 2002 because of an increased risk of invasive breast and uterine cancers, heart attack, and stroke. I thought surely ipriflavone will be given a second look. Instead, eyes turned to a class of drugs called bisphosphonates (Boniva®, Actonel®, Fosamax®). Unlike estrogen which facilitates osteoblast cells in building new bone, these agents bond to bone surface to prevent osteoclast cells from breaking bones down. Unfortunately, the two processes are biochemically connected and interfering with one affects the activity of the other. Rare cases of jaw osteonecrosis which affect the bone's ability to regrow and heal properly with Fosamax® have been reported. Bisphosphonates also lower blood calcium levels. So I ask again, what about ipriflavone?



**Osteoporosis can be a life threatening disorder but therapy options which support the natural course of bone regeneration can lessen and even reverse this disease.** Ipriflavone could be one of those options by mimicking the effect of estrogen on bone without its risks. Plus, by binding to estrogen receptor sites, ipriflavone may also provide a protective mechanism against breast and uterine cancers. Hungary, Japan and Italy have been prescribing ipriflavone for many years for treatment of and as a preventative against bone loss, despite its relative cool reception in the United States. In fact, more than 60 clinical studies of more than 3,000 people attest to its safety and effectiveness. Here is a sampling of research on impressive ipriflavone.

## Research Noteworthy

*The goal of successful therapy is to decrease bone turnover and build bone, too.* In a double-blind, placebo-controlled study of 255 postmenopausal women, forearm bone mineral density stayed constant in the ipriflavone treated group over a two year period. The placebo group, however, had a significant decrease in density, and bone turnover markers were higher. Subjects were given ipriflavone 200 mg or placebo three times a day, along with

1000 mg of calcium. Bone markers and blood chemistries were performed at 6-month intervals. [Adami S et al, *Osteoporos Int.* 1997]

*Osteoporosis carries a debilitating risk of fracture that can affect quality of life.*

Reducing the incidence of fractures is another measurable objective. In two multi-center, double-blind studies

in Italy, 111 osteoporotic women aged 65-79 years with a history of vertebral fractures completed a two year study. Participants received either 200 mg of ipriflavone (IP) or placebo three times a day and both groups given 1000 mg of calcium daily. The IP treated group showed significant increase in forearm bone mineral density and decreased vertebral fractures compared to controls. Plus, the IP group had less urinary hydroxyproline, suggesting bone turnover or breakdown was reduced. [Agnusdei, D, Bufalino L. *Calcif Tissue Int.* 1997]

*The greatest loss of bone occurs the 5 years following menopause.* In a study of 56 women who fit the profile, either 200 mg of ipriflavone or placebo was given three times a day. The calcium only group showed vertebral bone loss while the IP group did not. Urine testing for bone turnover markers was also higher in the calcium only group. Both groups had equal markers at baseline. Thus, IP slowed bone turnover (breakdown) rate significantly over calcium alone [Gennari C et al.

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## **Ipriflavone...**

### **Research Noteworthy**

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Menopause 1998] In a 1997 trial of 453 postmenopausal women by the same study author, bone turnover was reduced in 453 postmenopausal women, sparing between 1.6% to 3.5% in the IP group. [Gennari C et al. *Calcif Tissue Int.* 1997]

*Checking urinary markers NTx (N-linked telopeptides) is a way of testing whether bone breakdown is occurring and the level of calcium that is being lost.* Previous studies comparing ipriflavone with calcium demonstrated a definite difference. To determine the degree of bone turnover reduction, a small pilot study of seven postmenopausal women not on hormone therapy took IP or placebo for three months. At the end of the study, urinary markers declined by 29% in the IP group. This finding confirmed those of prior studies that

IP can and does reduce turnover but also that the urine marker test can be used to evaluate the effectiveness of therapies for bone loss. [Halpner, AD et al. *Womens Health, Gen Based Med* 2000]

### **References**

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*Full references on cited studies available on request.*

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