

*Private access to hidden cures...powerful discoveries...breakthrough treatments...
and urgent advances in modern underground medicine*

The battle for your bones

A newly discovered form of calcium can prevent and reverse bone loss

As more and more Americans are affected by [bone loss], the [condition] has received increased attention in the media. You have probably seen the grim statistics on this heartbreaking condition, which forces more people into nursing homes than almost any other factor.

Although most experts agree that [bone loss] is caused by a calcium deficiency, efforts to prevent it with calcium supplements have been disappointing. As a nutrient, calcium is very poorly absorbed, with only a small percentage of the calcium we get—whether from food *or* supplements—actually making it into the bloodstream. While most doctors still recommend them for their female patients, calcium supplements are widely considered to be too little too late to prevent or reverse bone loss due to a lifetime of calcium deficiency.

Because the rate of bone loss in women accelerates rapidly after menopause, the mainstream approach has focused almost exclusively on the use of synthetic hormone replacement therapy (HRT) or other estrogen-type drugs to delay post-menopausal bone loss.

But thanks to an exciting new breakthrough in nutritional medicine, you no longer have to wait until menopause to take action. New research from Japan suggests that a newly discovered and highly absorbable form of calcium has the power to prevent and reverse bone loss.

Why the current estrogen theory is flawed

The pharmaceutical companies have done a fairly good job of convincing the public, as well as the mainstream medical community, that estrogen replacement is the solution to [bone loss]. However, this narrow view completely ignores several critical facts about [bone loss].

Prevention should begin long before menopause. The greater your bone mass and density when you enter menopause, the more easily you can sustain a post-menopausal reduction in bone density without medical consequences. Instead of waiting until menopause, people should take preventive measures earlier in life, such as increasing their calcium intake—and bone reserves.

Other risk factors are involved. Your risk of developing [bone loss] is increased by a number of different variables, including heredity, medications, smoking, alcohol consumption, diet, and lack of exercise.

Men also suffer from [bone loss]. Unlike women, who experience a period of rapid bone loss immediately following menopause, men lose bone density more gradually throughout their lives. The [condition] tends to

(continued on page 2)

REPRINTED WITH PERMISSION FROM JULY 1999 ISSUE OF HSI MEMBERS ALERT.
SOME TEXT REMOVED FOR COMPLIANCE WITH FEDERAL LAW.

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, prevent or cure any disease. Adequate calcium with vitamin D as part of a healthful diet throughout life, along with physical activity, may reduce the risk of osteoporosis in later life.

(continued from page 1)

The battle for your bones

affect men at an older age, but it often hits them harder. Men are more likely to die following a bone fracture than women. The pharmaceutical companies, however, have largely ignored the fact that men also suffer from [bone loss].

One independent scientist is quietly challenging the widely held “estrogen hypothesis” concerning [bone loss]. The author of over 400 original scientific papers in peer-reviewed journals in the United States, Europe, and Japan, Dr. Takuo Fujita has questioned the view of the medical mainstream, arguing that *the solution to [bone loss] lies not in the manipulation of hormones but in understanding the complexities of calcium metabolism.*

“[Bone loss] occurs in women earlier and more frequently than in men because of the marked bone loss immediately after menopause... sometimes giving the impression that [bone loss] is a [condition] of women... but premenopausal bone loss also occurs, as does gradual bone loss, in men. ... It seems to be about time to view [bone loss] independently of estrogen.”

Nutrient deficiency [conditions] are not extinct

Our bodies need calcium for a variety of functions, including cellular-energy production and nerve and heart functions. Most of the body’s calcium supply is stored in the bones, where it also provides strength and rigidity to the skeleton. If there is not enough calcium circulating in the blood to supply the body’s cellular needs, the body will pull calcium out of its “reserves” in the bone. If calcium intake is chronically low, the bones will eventually become porous, weak, and prone to fracture.

In our well-fed society, [conditions] due to nutrient deficiencies have become rare, making it easy to underestimate the serious health threat posed by widespread calcium deficiency. Without sufficient calcium in childhood and young adulthood, we simply can’t build up sufficient bone mass to sustain the natural bone loss that occurs during the second half of our lives.

Experts estimate that in order to supply the body’s cellular needs and build and maintain bone stores, we need to consume 1,000 to 2,000 mg of elemental calcium every day, starting in adolescence. Unfortunately, the average diet provides only about 500 mg of calcium. To make matters worse, our ability to absorb what little calcium we do consume declines with age. In view of this reality, the prevalence of [bone loss] is hardly surprising—and the need for more safe and effective [choices] is essential.

Oyster shell ash breakthrough—breaking the absorption barrier

With a firm belief that reversing calcium deficiency is the solution to [bone loss] and many other age-related health conditions, Dr. Fujita has spent a considerable part of his career searching for a form of calcium that could be more efficiently absorbed and used by the body.

The first breakthrough came in the discovery of a compound called AACa, a unique form of calcium derived from oyster shell. Although there are several calcium supplements on the market that are made of ground oyster shell, it has, however, two major drawbacks as a source of calcium. First, the shell of the oyster often contains many other heavy metals, including lead, which can remain in the finished product. Second, oyster shell contains the poorly absorbed calcium-carbonate form of the mineral.

AACa is created via a unique processing technique that overcomes these disadvantages. Instead of being mechanically ground to a powder, the oyster shells are heated to extremely high temperatures (800° C), creating a fine ash. This smelting process burns off any heavy metals that might be present in the natural shell. Even more importantly, it also releases the calcium from the tough calcium/carbon bond, yielding calcium hydroxide and calcium oxide. These two compounds have much weaker molecular bonds, allowing them to be broken down more easily in the digestive tract.

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, prevent or cure any disease. Adequate calcium with vitamin D as part of a healthful diet throughout life, along with physical activity, may reduce the risk of osteoporosis in later life.

How do popular calcium supplements compare?

Because it is unstable on its own, calcium is almost always found in nature as a *calcium salt*, attached to any one of a number of different stabilizing minerals. Most of the popular calcium supplements contain either calcium carbonate or calcium citrate. In order to be used by the body, the calcium must be released from its chemical bonds, generally through the digestive process.

Calcium carbonate (Caltrate®, Tums®) is one of the more concentrated forms of calcium, containing about 40 percent elemental calcium. It's also relatively inexpensive, making it popular with supplement manufacturers. The problem with calcium carbonate, however, is that the calcium molecules are very tightly bonded to molecules of carbon. In order for the calcium to be released into the bloodstream, the body has to dissolve this calcium/carbon bond.

Unfortunately, only a small percentage of the calcium in calcium carbonate is actually liberated by the digestive process and absorbed by the body. Low stomach acid can significantly affect the ability to dissolve the calcium/carbonate bond. For older Americans, who tend to have less stomach acid, the percentage is even lower—about 4 percent.

Other calcium supplements (Citracal®, for example) use a slightly more expensive compound called *calcium citrate*, in which calcium molecules are bonded to molecules of citric acid. The advantage of calcium citrate is that this bond is much weaker than the calcium/carbon bond, making it easier for the body to break down and absorb this form of calcium. Even people with low stomach acid can absorb up to 45 percent of the calcium in calcium-citrate supplements. The drawback is that the number and size of capsules that need to be swallowed can be unmanageably large for many people.

Caltrate®, Tums® and Citracal® are registered trademarks of their respective manufacturers and are used herein for identification only.

(continued from page 2)

The battle for your bones

Exotic algae treatment [improves] the effectiveness

But the real breakthrough came later, when Dr. Fujita discovered that the absorbability of AACa could be even further enhanced by adding a certain specially processed algae. This algae preparation (which has been translated from the Japanese as “Heated Algae Ingredient” and is referred to in the medical literature as HAI) contains no calcium itself but is a rich source of amino acids. Studies conducted by Dr. Fujita at the Calcium Research Institute in Osaka, Japan, show that HAI significantly increases the intestinal absorption of calcium. Dr. Fujita cannot yet fully explain how HAI does this, but he hypothesizes that the amino-acid content of the HAI somehow aids the absorption of the calcium in the gut.

When HAI is added to AACa, the result is an extremely high-potency calcium supplement that is absorbed better. *AAACa* has just been made available in North America. (In fact, members in attendance at last month's HSI Symposium at the Sanibel Harbour Resort and Spa, Florida, were among the first Westerners to have access to this remarkable product, which we obtained several weeks ahead of the scheduled market-release date.)

In a study of 58 elderly women (with a mean age of 82), *AAACa* increased the bone mineral density (BMD) of the spine by over 3 percent after two years.¹ By comparison, women taking regular calcium-carbonate supplements experienced only a slight (0.6 percent) increase of spinal BMD and women taking a placebo lost almost 2 percent.

A 3 percent increase in spinal BMD is an astonishing result, particularly when you consider the advanced age of the people in the study. The ability of the body to absorb calcium declines very significantly with age.

In a trial of 136 patients (ages 51 to 83) already suffering from [bone loss], those taking *AAACa* had an increase in spinal BMD of 4.5 percent over three

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, prevent or cure any disease. Adequate calcium with vitamin D as part of a healthful diet throughout life, along with physical activity, may reduce the risk of osteoporosis in later life.

A hidden—and deadly—calcium danger

One of the functions of PTH is to pull calcium out of the bone and into circulation. As calcium deficiency becomes more and more pronounced, the parathyroid gland is stimulated to release more parathyroid hormone (PTH).

Not only does AAACa dramatically increase bone mineral density, but tests showed that it also significantly reduced (by nearly 50 percent) the levels of circulating PTH—in both women³ and men⁴. In the tests, groups taking placebo or calcium carbonate supplements did not experience a significant reduction in PTH levels.

³ Fujita, Takuo, et al., "Effect of Calcium Supplementation on Bone Density and Parathyroid Function in Elderly Subjects," *Mineral and Electrolyte Metab*, vol. 21, pp. 229-231, 1995

⁴ Fujita, Takuo, et al., "Overnight Suppression of Parathyroid Hormone and Bone Resorption Markers by Active Absorbable Algae Calcium," *Calcified Tissue Int*, vol. 60, pp. 506-512, 1997

(continued from page 3)

The battle for your bones

years.² By comparison, those taking a placebo lost about 3.5 percent.

AAACa is appropriate for men and women of all ages and has no side effects or associated risks.

Calcium that is easy to swallow and digest

In addition to its superior absorbability and documented ability to prevent and reverse age-related bone loss, AAACa has other distinct advantages to typical calcium supplements. Most calcium supplements are manufactured as hard-pressed tablets, which can be extremely difficult to digest, especially for older people with reduced stomach-acid output or those taking acid-blocking drugs.

AAACa is manufactured as a loose powder encapsulated in a gel capsule, assuring that 100 percent of the active ingredients are released for absorption. (Also, unlike the "horse pills" you may be used to taking, AAACa capsules are smaller and more easily swallowed than most calcium supplements.) Six capsules a day will provide 900 milligrams of

highly absorbable elemental calcium, the amount proven effective in multiple scientific trials. According to Dr. Fujita's research, you can boost the effectiveness of calcium therapy by taking three capsules, half of the daily dosage, at bedtime. Most bone loss occurs at night, when PTH levels reach their peak. Dr. Fujita has shown that taking three capsules of AAACa before bedtime significantly decreases this nocturnal rise in PTH. This not only has a direct and beneficial impact on bone loss but also protects you from the dangers associated with an overactive parathyroid gland.

"Prevention and control of [bone loss] is not our final goal," notes Dr. Fujita, "but only a start toward the eradication of all the calcium-deficiency [conditions] and achievement of a healthy future for mankind."

See select AAACa calcium published research abstracts on page 6. To receive copies of AAACa calcium research, please call 1-800-LANE-005 or log on to www.bonelossandyou.com.

¹ Fujita, Takuo et al., "Heated Oyster Shell-Seaweed Calcium on [bone loss]," *Calcif Tissue Int*, vol. 60, pp. 506-512, 1996

² Fujita, Takuo et al., "A Three-year Comparative Trial in [bone loss] Treatment," *J. Bone Miner Metab*, vol. 15, pp. 223-226, 1997

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, prevent or cure any disease. Adequate calcium with vitamin D as part of a healthful diet throughout life, along with physical activity, may reduce the risk of osteoporosis in later life.

Dear Member,

In the financially motivated and often political battle for your bones being waged by the drugmakers, one critical fact is in danger of being overlooked: [bone loss] is primarily due to a *lifelong* calcium deficiency. The typical American consumes only one-fourth of the calcium required for optimum health, most of it in poorly absorbable forms such as that found in dairy products.

Few people today can remember when vitamin C deficiency, thiamin deficiency, or niacin deficiency were common. And yet [bone loss], a [condition] caused by a calcium deficiency, [affects] 25 million Americans. But now, thanks to a dramatic breakthrough in calcium supplementation, first revealed at last month's HSI symposium in Florida and detailed in this month's exclusive feature story, [bone loss] may one day be included in the ranks of obsolete conditions.

Read on for more details on how to put this breakthrough in nutritional medicine to work for you immediately.

Until next month,



Jenny Thompson
Editorial Director

If you would like to subscribe to the Health Sciences Institute, contact the member services hot line at (800) 981-7157 or (410) 223-2611.

These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, prevent or cure any disease. Adequate calcium with vitamin D as part of a healthful diet throughout life, along with physical activity, may reduce the risk of osteoporosis in later life.



Director

Jenny Thompson

Editorial Director

Jenny Thompson

Associate Director

Karen Gatzke

Publisher

Karen M. Reddel

Editorial Associate

Gina Coco

Copy Editor

Ken Danz

Designer

Shannon Roberts

Our Mission

The Health Sciences Institute is dedicated to uncovering and researching the most urgent advances in modern underground medicine. Whether they come from a laboratory in Malaysia, a clinic in South America, or a university in Germany, our goal is to bring the treatments that work directly to the people who need them. We alert our members to exciting breakthroughs in medicine, show them exactly where to go to learn more, and help them understand how they and their families can benefit from these powerful discoveries.

How to contact the Health Sciences Institute

To contact the Health Sciences Institute members services hotline, please call (410) 895-7904 or write to Health Sciences Institute, 819 N. Charles Street, Baltimore, MD 21201. International subscribers, please call (410)783-8440 or fax (410)783-8438.

Your private Members Alert is a monthly publication of the Health Sciences Institute. ©Copyright 1999 Institute for Health Sciences L.L.C., 819 N. Charles St., Baltimore, MD 21201. All rights reserved. No part of this report may be reproduced by any means or for any reason without the consent of the publisher.

This information is provided as information only and may not be construed as medical advice or instruction. No action

or inaction should be taken based solely on the contents of this publication. Readers should consult appropriate health professionals on any matter relating to their health and well-being. The information and opinions provided in this publication are believed to be accurate and sound, based on the best judgment available to the authors, but readers who fail to consult appropriate health authorities assume the risk of any injuries. The publisher is not responsible for errors or omissions.

Statements made in this issue have not been evaluated by the Food and Drug Administration. Products discussed are not intended to diagnose, treat, cure, or prevent any disease.

HEATED OYSTER SHELL-SEAWEED CALCIUM (AAACa) ON [BONE LOSS]

T. Fujita,¹ T. Ohue,¹ Y. Fujii,¹ A. Miyauchi,² Y. Takagi

1 Calcium Research Institute, 250 Makamicho, Kishiwada, Osaka Japan 596 and Katsuragi Hospital, Osaka, Japan

2 National Sanatorium, Hyogo Chuo Hospital, Hyogo, Japan
Received: 26 January 1995/Accepted: 16 November 1995

Calcif Tissue Int (1996) 58:226-230

Abstract

A randomized, prospective, double-blind test was carried out to compare the effects of heated oyster shell-seaweed calcium (AAACa), calcium carbonate, and placebo in 58 elderly, hospitalized women with the mean age of 80 divided into three groups. Group A received 900 mg/day Ca as AAACa, Group B 900 mg/day Ca as CaCO₃, and Group C placebo besides regular hospital diet containing approximately 600 mg/day for 24 months. From the 25th to the 30th month, all groups were given AAACa. Lumbar spine and radial bone mineral density (BMD) were measured at 3-month intervals. Urinary Ca/Cr and serum alkaline phosphatase, intact and midportion serum parathyroid hormone (PTH), and calcitonin were also measured at intervals. From the 6th to the 24th month of the study, the ratio of lumbar spine BMD (L₂-L₄ by DPX, Lunar) to the basal pretest value was consistently and significantly higher in group A than Group C but not higher in group B than in Group C. PTH, measured 12 months after the beginning of the study was lower in group A than in Group C, but no significant difference was found between Groups B and C. At 3 months after the placebo was switched to AAACa in group C, serum PTH was significantly decreased from the level during placebo supplement. Morning urine Ca/Cr decreased in groups A after 18 months and B after 12 months, but not in C. Serum alkaline phosphatase decreased in Group A significantly compared with Group C, but not in Group B. AAACa appears to be effective for increasing BMD in elderly subjects.

REAPPRAISAL OF KATSURAGI CALCIUM STUDY, A PROSPECTIVE, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY OF THE EFFECT OF ACTIVE ABSORBABLE ALGAL CALCIUM (AAACa) ON VERTEBRAL DEFORMITY AND FRACTURE

Fujita Takuo^{1,2}; Ohue Mutsumi¹; Fujii Yoshio²; Miyauchi Akimitsu³; Takagi Yasuyuki³;

1 Katsuragi Hospital, 250 Makamicho, Kishiwada, Osaka 596-0842, Japan

2 Calcium Research Institute, Osaka, Japan

3 National Sanatorium Hyogo Chuo Hospital, Hyogo, Japan

J Bone Miner Metab (2004) Vol. 22, pages 32-38

Abstract

A prospective, double-blind, placebo-controlled study of the effect of supplementation with 900mg/day of calcium, as active absorbable algal calcium (AAACa) or calcium carbonate (CaCO₃), on lumbar bone mineral density (BMD) carried out in elderly inpatients with [bone loss] at Katsuragi Hospital was re-evaluated in terms of the effects on vertebral fracture and spondylotic deformity. In addition to the already reported increase in lumbar BMD, AAACa was found to inhibit new occurrence of vertebral fracture. Intraindividual variations in L₁-L₄ BMD (expressed by the coefficient of variation, indicating the degree of spondylotic deformity, were also inhibited significantly in the group supplemented with AAACa (group A), but not in group B (supplemented with CaCO₃), from the level in the placebo-supplement group (group C) after 18 months of supplementation. According to whole-body dual-energy X-ray absorptiometry (DXA) results in the first and second year of the study, whole body mass, lean content, and mineral content, expressed as a percentage of whole body mass, stayed unchanged, while increase of fat content was significantly inhibited in group A, but not in group B, from the level in group C. As to the regional distribution of bone mineral content, the second year/first year value for head bone mineral content was significantly decreased with AAA

supplementation compared with placebo, but no significant difference was found between CaCO₃ and placebo supplementation. Changes in mineral distribution in the arms, trunk, and legs showed no significant differences among the three groups. In addition to increasing BMD and preventing fracture, AAACa, but not CaCO₃, appears to inhibit the occurrence of spondylotic deformity and to decrease body fat content.

A THREE-YEAR COMPARATIVE TRIAL: EFFECT OF COMBINED ALFACALCIDOL AND ELCATONIN

T. Fujita¹, Y. Fujii¹, B. Goto¹, A. Miyauchi², and Y. Takagi²

1 Calcium Research Institute, 250 Makamicho, Kishiwada, Osaka 596, Japan

2 National Sanatorium, Hyogo Chuo Hospital, Sanda, Hyogo 669-13, Japan

J Bone Miner Metab (1997) 15:223-226

Abstract

The effect of agents commonly used ... in Japan — calcium, alfalcidol (1 α -hydroxyvitamin D3) elcatonin (eel calcitonin derivative) and an alfalcidol-elcatonin combination—on lumbar spine bone mineral density (BMD) was assessed in 136 subjects aged 51-83 years with various degrees of [bone loss], divided into five groups approximately matched for age and BMD over a period of 3 years. Lumbar spine BMD decreased by about 3.5% without treatment but was maintained at approximately baseline level on elcatonin. Oral administration of 900 mg/day calcium as AAACa (active absorbable algae calcium) or 1 μ g/day alfalcidol increased lumbar BMD by 4.5% or 3.7%, respectively, after 3 years. Combined use of alfalcidol and elcatonin was most effective, increasing the BMD by 8.0% after 3 years.

Extremely low calcium and vitamin D intake in Japan with consequent low calcitonin secretion may be responsible for the favorable effects. Alfalcidol, an active form of vitamin D, and elcatonin acting through different mechanisms may act synergistically on bone to increase BMD.

INCREASE OF INTESTINAL CALCIUM ABSORPTION AND BONE MINERAL DENSITY BY HEATED ALGAL-INGREDIENT (HAI) IN RATS

T. Fujita¹, Y. Fujii¹, B. Goto¹, A. Miyauchi², Y. Takagi², S. Kobayashi³, K. Komoshita³, N. Mikuni³, Y. Kurihara³ and I. Shikauchi³

1 Calcium Research Institute, 250 Makamicho, Kishiwada, Osaka 596-0842, Japan

2 National Sanatorium Hyogo Chuo Hospital, Hyogo, Japan

3 Institute of Science and Technology, Inc., Tokyo, Japan

J Bone Miner Metab (2000) 18:165-169

Abstract

Active absorbable calcium (AAACa) produced by adding HAI (heated algal ingredient) to oyster shell calcium (AAACa) is quite efficiently absorbed from the intestine and can increase bone mineral density in elderly patients. HAI was produced by heating the seaweed *Cystophyllum fusiforme* under reduced pressure, extracting with 6N HCL, and partially neutralizing it. Butanol-ethanol extraction then yielded active HAI fraction A, corresponding to about 1% in weight. The active HAI fraction increased intestinal Ca absorption as shown by a dose-dependent increase of plasma Ca in young male parathyroidectomized rats maintained on a low-Ca diet by administration through a stomach tube with a constant dose of AAACa. The action of the active fraction A to maintain bone mass was then tested in young male rats kept on a low-Ca diet for 2 weeks. Bone weight, trabecular bone density, and strength-strain index as indices of bone strength measured by peripheral computed tomography (pQCT) tended to increase when the active HAI fraction was given along with Ca. HAI increased intestinal Ca absorption and prevented the decrease of bone density in rats kept on a low-Ca diet.