SUMMER 2009

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CENTRAL OHIO ADDISON'S SUPPORT TEAM

COAST News

VF Power Pedal for Rare Diseases

We did it!

By Heather Nagy

I can't begin to describe the feeling of exhilaration and accomplishment we 13 bicyclists felt as we pedaled through the National Mall, past the Capitol building and into Upper Senate Park on June 29. The group had pedaled 360 miles from downtown Pittsburgh, PA, to Washington DC, to deliver to Congress messages from more than 300 rare disease patients. Many of those notes were from COAST members.

It wasn't easy. During our six-day journey along the Great Allegheny Passage rail-trail and the C&O Canal Towpath, temperatures were in the high 80's and low 90's. Even when we were riding under the canopy of trees over the trail, it was hot. I was the only rare disease patient in the group, and had given a quick overview of Addison's Disease to the others so they'd understand my added challenges of making this trip, and so they'd all know where my emergency kit was—just in case! (Fortunately, I didn't need it.)

Representatives of several Senators and Congressmen greeted us in Washington, and we presented each of them with bound copies of "A Call to Action: The Impact of Rare Diseases on Patients and Caregivers." These books contained not only a description of our mission, but all 310 letters to Congress. We will be sending the book to all Members of Congress who were unable to attend our ceremony.

The Vasculitis Foundation sponsored the ride, which was supported by eight other national patient advocacy groups, and the National Organization for Rare Diseases. Although the ride originally started out as a fund-raiser for VF, it quickly evolved into a ride to raise awareness of the 7,000 rare and orphan diseases that affect the daily lives of more than 25 million Americans. From the reception we received all along the trail, it was a success.

Everywhere we stopped, people asked us about our mission, and nearly everyone said they knew someone with a rare disease. Everyone we spoke with supported our mission of increased funding for rare disease research.

Small-town newspapers along the route published articles about our progress, and radio stations aired interviews from the trail.

Heather Nagy presents the document to Ali Prolaga, from the office of Congressman Pat Tiberi, Ohio. Rep. Tiberi issued a proclamation commending the VF Power Pedal riders.

For more information about the ride, or to read our blog and see photos of the adventure, go to www.vasculitisfoundation.org, and follow the links to the VF Power Pedal pages.

Thank you to every COAST member who sent in their comments! We'll continue to collect them, and will make sure Congress continues to hear our united voice!

Inside this issue:

No July Meeting; plan to attend October 10

Eight members, all "regulars", attended the April COAST meeting in Columbus, and discussed a variety of topics. One thing they all had in common was that they couldn't come to a meeting in July. Thus, the next meeting of COAST will be held October 10 at a place yet to be determined.

We have invited a board-certified endocrinologist to speak, and hope that we will have a response from him soon. Exact details of the meeting will be in the September COAST News.

You won't want to miss this meeting! Mark your calendar now for 1 p.m. on October 10, 2009.

SAVE THE DATE!

No, not that kind of date!

Save October 10, 2009 for the next COAST meeting!

Search to benefit the NADF

The National Adrenal Diseases Foundation has received more than $800 from Goodsearch.com, but the number of searches is falling off.

If you're not using Goodsearch as your search engine, give it a try! It's an easy way to raise money that helps NADF provide support to adrenal patients.

You use GoodSearch like any other search engine - the site is powered by Yahoo! - but each time you do, money is generated for us. Here's how it works:

1. Go to www.Goodsearch.com.
2. Type "National Adrenal Diseases Foundation" into the "I support" box, then click on "verify."
3. Search the Internet just like you would with any search engine.

Since GoodSearch shares its advertising revenue with charities, every time you search the Internet at GoodSearch, you'll be earning money for us.

GoodSearch also has a toolbar you can download from the homepage so that you can search from the top of your browser.

You can keep track of NADF's estimated earnings by clicking on "amount raised" once you designate us as your organization of choice. The more people who use the site, the more money we'll earn, so please send this information to everyone in your address book!

Stick to these rules for emergency meds

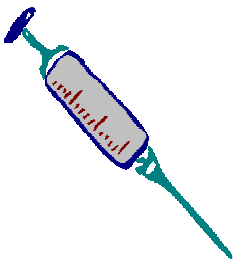
If you carry an injectable steroid for emergencies, there are a few things you need to do NOW to make sure it works if and when you need it:

First, carry it in a clearly marked container. It will do no good if an first responder looks in your purse and sees an attractive eyeglass case. A clear eyeglass case marked with red letters will ensure that a stranger will be able to identify your meds as such.

Be sure to make note of the emergency injectable on your wallet card, i.e.; "Emergency medication is in red case in my purse."

Keep your meds out of the heat! Leaving your meds in the car could expose them to high temperatures that could lessen their strength. If you'll be in the heat this summer, consider carrying your meds (daily and emergency) in an insulated container.

Finally, check the expiration date on your vial of steroids. Medications lose strength over time. Fresh meds work best.



Research

DHEA increases bone density in older women

Taking a DHEA supplement combined with vitamin D and calcium can significantly improve spinal bone density in older women, according to a new study from a Saint Louis University scientist and his colleagues at Washington University.

"The results of our study are very promising. Similar studies have demonstrated much smaller benefits for bone than we found. However, calcium and vitamin D deficiencies, which are present in half of older adults, may have prevented DHEA from improving bone density in the earlier studies," said Edward Weiss, Ph.D., lead author of the study.

"In our study, we supplemented all participants with calcium and vitamin D to ensure that deficiencies were not present. This may explain why our study showed more favorable effects on bone density."

DHEA (dehydroepiandrosterone), a naturally occurring steroid hormone produced in the adrenal gland, gonads and brain, decreases with age. According to Weiss, low DHEA concentration has been associated with low bone density, which lead researchers to question whether restoring DHEA levels could improve or preserve bone health. Because those with Addison's Disease do not make DHEA, AD patients often take it as an over-the-counter supplement. However, it is important to note that no Addison's patients were included in this study.

The two-year study divided men and women, ages 65 to 75 years old, into two groups. The first group received the DHEA supplement, vitamin D and calcium for two years. The control group received a placebo, vitamin D and calcium for the first year and then received the DHEA supplement the second year in place of the placebo.

The effects of the treatment differed for men and women. After the first year, women in the test group experienced an approximate 2 percent increase in bone density, while women in the control group did not see an increase. After the second year when both groups took the DHEA supplement, women in the test group experienced an additional 2 percent increase for a total of approximately 4 percent, while women who switched from placebo to DHEA also experienced an approximate 2 percent increase.

The same treatment, however, did not offer similar benefits for older men. Instead, men in both the test and control groups experienced a 1 to 2 percent increase in spinal bone density. According to researchers, the results suggest that vitamin D and calcium supplements, which were give to both groups, could be responsible for the increase in bone density.

The results of the study are promising for older women. According to Weiss, patients who achieve similar increases of 2 to 4 percent in spinal bone density with the help of medication experience a 30 to 50 percent reduction in risk of spine fractures.

Further, researchers say that the increase in spinal bone density experienced by women in the test group who took DHEA for two years, is at least as effective as other current therapies including estrogen and bisphosphonates, a class of prescription drugs that increases bone density.

However, like other therapies, the benefits of DHEA supplements were limited to spinal bone density. Neither men nor women experienced an improvement in hip bone density. Weiss says the hip may respond more slowly to bone-enhancing therapies than the spine, thus requiring more time to see a beneficial effect. More research is needed though.

While the research findings are promising, people should consult with their doctor before taking DHEA

"In addition to its beneficial effects on bone, DHEA replacement may have other benefits including improvements in risk factors for diabetes and heart disease, improvements in immune function, and improvements in psychological health," Weiss said.

While the research findings are promising, Weiss says that people should consult with their doctor before taking DHEA, which is an over-the-counter dietary supplement.

"Although DHEA is generally considered safe for consumption at 50 mg per day, it increases estrogen and testosterone levels which in turn could increase cancer risk," Weiss explained. "Therefore, DHEA supplementation should be avoided in men and women who have had cancer or who have a strong family history of cancer until further research can establish whether or not it is safe for these individuals."

The study was funded with grants from the NIH, NIH General Clinical Research Center and NIH Clinical Nutrition Research Unit. Findings were published in the May 2009 issue of the *American Journal of Clinical Nutrition.* Article adapted from information provided by St. Louis University.

About those flowers

The flowers pictured on the first page of the newsletter bloomed on a weigeila bush planted in memory of Mava Gersch, NADF Executive Director Melanie Wong's mother, who passed away three years ago.

On the Horizon

"Antedrugs" - a safer drug therapy?

Corticosteroids are powerful drugs used to treat inflammatory conditions such as asthma and other chronic diseases, which has made them among the most widely prescribed drugs. Although these anti-inflammatory drugs offer swift relief to the patient, they can carry with them serious side effects. For example, the inflammatory steroids used to treat a child's asthma can stunt the child's growth over time. Similarly, adult treatment of Addison's disease can, according to some sources, lead to the development of diabetes, hypertension and other side effects.

For more than 20 years, one research team has been working to develop a safer approach that would eliminate inflammation without causing damage to the body. Such drugs, called "antedrugs" have been developed in a lab at Florida A&M's College of Pharmacy. The efforts have been spearheaded by Dr. Henry J. Lee who has led antedrug research in anti-inflammatory, anti-AIDS and anti-cancer drugs for nearly 30 years.

Antedrug design is a new approach to create safer drugs that attack a problem such as inflammation then quickly become inactive before they can cause damage. The primary objective of this study was to synthesize a new group of corticosteroids that have anti-asthmatic and anti-inflammatory properties without adverse side effects.

Isoxazoline derivatives improve topical anti-inflammatory activity without causing systemic damage.

The researchers synthesized new antedrugs, isoxazoline derivatives, from prednisolone. They then tested the derivatives in a test tube and found that antedrugs effectively reduced inflammation. In fact, they found isoxazoline derivatives were five times more potent than prednisolone in binding affinities to the cell corticosteroids receptors and reducing inflammation.

The researchers also studied the isoxazoline derivatives in the lung and liver cells of rats and found that the antedrugs significantly reduced the cell inflammation. In addition, the rat plasma began metabolizing rapidly the antedrugs to an inactive form with the half lives less than five minutes and more than 95% of prednisolone remained unchanged even after 100 min incubation.

These results suggest that isoxazoline derivatives compared to conventional steroids improve topical anti-inflammatory activity without causing systemic damage. "This is a very promising outcome," according to Dr. Lee.

Additional studies are currently underway, using a new group of corticosteroids in the treatment of asthma exacerbation and chronic pulmonary inflammation without systemic side effects such as body weight and hypothalamic-pituitary-adrenal axis change.

This research was supported by the National Institutes of Health. This article was adapted from materials provided by the American Physiological Society.

Who we are

The Central Ohio Addison's Support Team (COAST) is an all-volunteer organization dedicated to support for those with Addison's Disease.

Here are the people who make COAST happen:

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If you'd like to volunteer to arrange programs, mail out the newsletter to those who are not online, arrange for meeting places, write articles, or do anything else, please contact any of these volunteers.

Addison's Antics

Cryptoquote

HLNV KVLKOV WIVZN LU DLIGSB ZXXLNKORHSNVMGH,

DSROV LGSVIH HGZB ZDZPV ZMW WL GSVN. -FMPMLDM

Research

Glucocorticoid-induced osteoporosis drugs studied

A study published in *The Lancet* shows that a once-yearly infusion of Reclast® (zoledronic acid 5 mg)* is significantly more efficacious than risedronate (Actonel) in preventing and treating bone loss in men and women with osteoporosis caused by glucocorticoids.

The one-year study, financed by Novartis, the manufacturer of Reclast, included more than 800 patients and investigated both the prevention and treatment of glucocorticoid-induced osteoporosis (GIO), comparing the efficacy of Reclast with daily oral risedronate, an established GIO therapy.

The greater efficacy of Reclast on bone mass was evident at six months after the start of the study. This is important in the prevention of GIO because the reduction of bone mass and its associated increase in fracture risk can occur even within three months of initiating glucocorticoid therapy.

Glucocorticoids are widely used to treat inflammatory conditions such as asthma, rheumatoid arthritis and inflammatory bowel disease, as well as Addison's Disease. While most patients with Addison's take a physiologic replacement dose that should not increase the risk of osteoporosis, many must over-replace to meet their personal needs. Up to 50% of patients receiving long-term glucocorticoid therapy are at increased risk of fracture due to osteoporosis as their use is associated with side effects such as bone loss, and consequently osteoporosis.

"Currently, the established therapy for the prevention and treatment of GIO are oral bisphosphonates which have been associated with poor compliance," said Professor David M. Reid, Head of the Division of Applied Medicine at the University of Aberdeen, UK, and lead researcher of the study. "A once-yearly intravenous infusion has been shown to be fast-acting and significantly efficacious, and is therefore a valuable option to treat GIO patients and help protect them for a full year from an increased risk of osteoporotic fractures."

Reclast is also approved in more than 80 countries to treat osteoporosis in men and postmenopausal women, to reduce new clinical fractures in men and postmenopausal women who have recently suffered a low trauma hip fracture, and to treat Paget's disease of the bone. Recently Reclast was approved by the Food and Drug Administration in the US to treat and prevent GIO in men and women who are expected to remain on glucocorticoids for at least 12 months.

The study of 833 men and women published in *The Lancet*, investigated both prevention (288 patients) and treatment (545 patients) of GIO..

The study showed that a single intravenous infusion of Reclast resulted in significantly greater increase in bone mineral density (BMD) of the lumbar spine and femoral neck, trochanter and total hip compared to once-daily oral risedronate. The greater efficacy of Reclast was evident at six months after treatment initiation. Reclast was superior at increasing lumbar spine BMD at 12 months compared to once-daily risedronate (Actonel) in both the treatment group (Reclast 4.1%, risedronate 2.7%; P=0.0001) and prevention group (Reclast 2.6%, risedronate 0.6%; P<0.0001)1.

Results from this study show that Reclast is generally safe and well-tolerated. The most common adverse events associated with Reclast were transient post-dose symptoms such as fever and muscle pain. The majority of these symptoms occurred in the first three days after Reclast administration and resolved within that same period of time. Post-dose symptoms can be reduced by taking acetaminophen or ibuprofen shortly after the Reclast infusion7.

In this trial there were no cases of osteonecrosis of the jaw, delayed fracture healing or esophageal cancer, and no evidence of an increased risk of atrial fibrillation, all occasional side-effects of medications to alleviate osteoporosis.

This article was adapted from materials provided by Novartis, the maker of Reclast.

We need your help!

One of the problems inherent with support groups such as COAST is that all of the members are ill, and might not have the energy reserves required to arrange for speakers, and meeting places, reach out to newly diagnosed Addisonians, provide between-meeting support to members, publish a newsletter, and increase Addison's awareness in the general public. Many people with Addison's are also affected by other conditions that further limit their time and energy.

But there's a lot of truth in the old saying, "Many hands make light work."

If everyone does just a little, we can accomplish a lot. If you can talk on the phone, you can call a nurse to see if s/he will demonstrate how to give an emergency injection. The next time you go to your endocrinologist, ask if he or she would be interested in coming to one of our meetings to answer questions about Addison's Disease. Other speakers might include a nutritionist, pediatric endocrinologist, psychologist, or any specialist who would be able to speak on Addison's/steroid use in relation to their specialty (dermatology, osteoporosis, ophthalmology).

If you'd like to help out in any way, please contact Betsey, Ann, or Heather. Thanks!

Another theory on Vitamin D and autoimmunity

Deficiency in vitamin D has been widely regarded as contributing to autoimmune disease, but a review appearing in *Autoimmunity Reviews* explains that low levels of vitamin D in patients with autoimmune disease may be a result rather than a cause of disease and that supplementing with vitamin D may actually exacerbate autoimmune disease. Addison's Disease is often autoimmune.

Authored by a team of researchers at the California-based non-profit Autoimmunity Research Foundation, the paper goes on to point out that molecular biologists have long known that the form of vitamin D derived from food and supplements, 25-hydroxyvitamin D (25-D), is a secosteroid rather than a vitamin. Like corticosteroid medications, vitamin D may provide short-term relief by lowering inflammation but may exacerbate disease symptoms over the long-term.

The insights are based on molecular research showing that 25-D inactivates rather than activates its native receptor - the Vitamin D nuclear receptor or VDR. Once associated solely with calcium metabolism, the VDR is now known to transcribe at least 913 genes and largely control the innate immune response by expressing the bulk of the body's antimicrobial peptides, natural antimicrobials that target bacteria.

Written under the guidance of Professor Trevor Marshall of Murdoch University, Western Australia, the paper contends that 25-D's actions must be considered in light of recent research on the Human Microbiome. Such research shows that bacteria are far more pervasive than previously thought - 90% of cells in the body are estimated to be non-human - increasing the likelihood that autoimmune diseases are caused by persistent pathogens, many of which have yet to be named or have their DNA characterized.

Marshall and team explain that by deactivating the VDR and subsequently the immune response, 25-D lowers the inflammation caused by many of these bacteria but allows them to spread more easily in the long-run. They outline how long-term harm caused by high levels of 25-D has been missed because the bacteria implicated in autoimmune disease grow very slowly. For example, a higher incidence in brain lesions, allergies, and atopy in response to vitamin D supplementation have been noted only after decades of supplementation with the secosteroid.

Furthermore, low levels of 25-D are frequently noted in patients with autoimmune disease, leading to a current consensus that a deficiency of the secosteroid may contribute to the autoimmune disease process. However, Marshall and team explain that these low levels of 25-D are a result, rather than a cause, of the disease process. Indeed, Marshall's research shows that in autoimmune disease, 25-D levels are naturally down-regulated in response to VDR dysregulation by chronic pathogens. Under such circumstances, supplementation with extra vitamin D is not only counterproductive but harmful, as it slows the ability of the immune system to deal with such bacteria.

The team points out the importance of examining alternate models of vitamin D metabolism. "Vitamin D is currently being recommended at historically unprecedented doses," states Amy Proal, one of the paper's co-authors. "Yet at the same time, the rate of nearly every autoimmune disease continues to escalate."

For the past five years, Autoimmunity Research Foundation has been running an observational study in which patients are administered pulsed low dose antibiotics and a VDR agonist in order to kill chronic bacteria implicated in their diseases. Specific data on the cohort was recently presented by CAPT Thomas H. Perez, USPHS (ret) at the International Congress on Autoimmunity in Porto, Portugal: Transcript

Citation: Albert PJ et al. In press. *Autoimmunity Reviews*. "Vitamin D: The alternative hypothesis." Full-text preprint: http://autoimmunityresearch.org/transcripts/AR-Albert-VitD.pdf

Answer to the Cyptoquote on page 4 (Thanks to Dusty Hardman, amazing Addison's woman from Idaho!)

Some people dream of worthy accomplishments, while others stay awake and do them. -Unknown

Research you can participate in

Canadian cortisol study expanded to include US Addison's patients

The University of Western Ontario, under the direction of Dr. Stan Van Uum, is conducting a research study on hair cortisol levels in people with adrenal insufficiency. The study team is looking for people treated with hydrocortisone and may also need volunteers (family members living in the same environment) for a control group. Participation in this study requires only 30 minutes, does not require you to visit a laboratory, clinic, or hospital. It can be done from your home anywhere in North America.

Dr. Van Uum reports, "Our goal is to measure cortisol levels in hair of patients treated for adrenal insufficiency. We hypothesize that the cortisol replacement dosing may be too high in some patients, which may lead to more adverse health effects. We will look at the hair cortisol levels in patients with adrenal insufficiency and compare them to a healthy control population (partners of the study patients)."

The study will primarily include those patients who are taking hydrocortisone (cortef), cortisone or cortisone acetate, but will include a few patients taking prednisone. "Briefly, our study aims to recruit 200 patients from across North America," Dr. Van Uum notes, "You can participate regardless of your hair color."

The research team reports that recruitment has been going very well, and that they planned to send out their first 100 study packages the week of July 13.

If you take hydrocortisone (Cortef) and can help with this research, contact the study team at (519) 646-6170 or hairstud@uwo.ca for more information.

Another theory

"Autoantibodies" may be created in response to bacterial DNA

Autoimmune diseases such as Primary Addison's Disease have long been regarded as illnesses in which the immune system creates autoantibodies to attack the body itself. But today, researchers at the California non-profit Autoimmunity Research Foundation (ARF) explain that they believe antibodies observed in autoimmune disease actually result from alteration of human genes and gene products by hidden bacteria.

Not long ago, scientists believed they had located all bacteria capable of causing human disease, but DNA discoveries in the last decade have led the NIH Human Microbiome Project to now estimate that as many as 90% of cells in the body are bacterial in origin. Many of these bacteria, which have yet to be named and characterized, have been implicated in the progression of autoimmune disease.

In a paper published in *Autoimmunity Reviews*, the ARF team, under the guidance of Professor Trevor Marshall of Murdoch University, Western Australia, has explained how Homo sapiens must now be viewed as a superorganism in which a plethora of bacterial genomes a metagenome work in concert with our own. Marshall and team contend that the human genome can no longer be studied in isolation.

"When analyzing a genetic pathway, we must study how bacterial and human genes interact, in order to fully understand any process related to the human superorganism," states Marshall. "Especially since some of these pathways contribute to the pathogenesis of autoimmune disease."

For example, the team notes that the single gene ACE has an impact on myocardial infarction, renal tubular dysgenesis, Alzheimer's, the progression of SARS, diabetes, and sarcoidosis, yet recently ACE has been shown to be affected by the common species Lactobacillus and Bifidobacteria. Found in yogurt, these species are often considered to be innocuous or "friendly."

"No one would argue that these species aren't present in the human body, yet there has been inadequate study of how these 'friendly' species affect disease," states Amy Proal, the paper's lead author.

"What we thought were autoantibodies generated against the body itself can now be understood as antibodies directed against the hidden bacteria," states Marshall. "In autoimmune disease, the immune system is not attacking itself. It is protecting the body from pathogens."

To validate their lab discoveries, Marshall's team has been conducting an observational clinical trial of more than 500 autoimmune patients and reported at the recent 6th International Congress on Autoimmunity that antibacterial therapies targeted at these hidden microbes are capable of reversing autoimmune disease processes.

Source: Autoimmunity Research, Inc

COAST
97 Lawrin Court, SW
Pataskala, OH 43062

Next Meeting:
October 10, 2009

Pass the Salt, Please!

Festive Picnic Salad

This very forgiving recipe works with just about any canned beans, and if you have only two or three kinds, it still tastes great. The colors from the different beans and peppers make a festive confetti salad. Makes 4 main course or 8 side dish servings

1 can (15 oz) black or
1 can (15 oz) northern beans
1 can (15 oz) dark red kidney beans
1 can (15 oz) chickpeas (garbanzos, cece beans)
¼ to ½ cup chopped sweet or green onions
1 cup chopped red bell pepper
1 cup chopped green or yellow bell pepper (or both!)
4 large cloves garlic, minced
1 cup red wine vinegar
1/2 cup olive oil
1 to 2 teaspoons ground cumin (Don't be stingy!)

Drain and rinse well all of the beans and place them in a medium-sized bowl. Add the chopped onions, and chopped peppers. In a small bowl, combined the minced garlic, vinegar, oil, and cumin, and whisk well. Drizzle over the bean mixture and toss well to coat. Serve immediately or refrigerate until ready to serve. This salad keeps well, covered, in the refrigerator for about 3 days.