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DIABETES IN CONTROL.com NEWSLETTER
The Newsletter for Professionals in Diabetes Care

May 8, 2002, *Issue 103*

From the Editors Desk

Next week is our 2 year anniversary. It has been a wonderful experience for us. With your suggestions and support, we have gone from 35 subscribers for our first issue to almost 30,000 subscribers. Thanks again for your great support, we have grown due to your support.

This week we have 2 announcements from last weeks AACE convention in Chicago that our publisher, Steve Freed attended.

I walked in the JDRF Tampa Bay walk on Sunday, thanks to the over 100 readers, who contributed to team DIABETES IN CONTROL, we raised over 900.00. If you would like to contribute whether it's a dollar or a hundred dollars [click here](#).

A number of your peers wrote in with suggestion on how to change the "Action Plan" to make it even better. So we made the changes and it is available to you to print. "Tools" for your practice. The New "Action Plan" for your patients will cause them to make their own commitment to diabetes care.

Starting next week in our Anniversary Issue, we have made arrangements to have Dr. Evan Rosen, M.D., Ph.D. and Assistant Professor of Medicine, Harvard Medical School share with us every 2 weeks a new feature on Diabetes. Don't miss the first feature in our 2 year anniversary issue of Diabetes In Control next week: "How does a cell turn off the signal given by insulin once the message has been delivered? This is a critical issue!

Also starting next week, Kristina Sandstedt, MS, a Certified Exercise Specialist through the American College of Sports Medicine will be joining us as a columnist. She is currently the Clinical Exercise Physiologist and Diabetes Educator for the Early Outpatient Phase II Cardiovascular Rehabilitation unit and the outpatient Diabetes Self-Management classes at Boone Hospital Center in Columbia, Missouri. Kristina will be focusing on Exercise and helping you ensure your patients success.

Dr. Freedland continues his series "Why Focusing On Intensive Glucose Control With Drugs Alone Is Counterproductive" with Part 4 How do Insulin, Tumor necrosis factor-alpha, and Fat affect Vascular Inflammation?

[This is the last week to get in your names to win one of 3 scholarships to the AADE conference.](#)

Our Leaders are Russ Brewer 713, Joann Henry 477, Connie Kleinbeck 374, Birgetta Rice 363, and Cordele Atkins 352, remember we have 8 other prizes also:

To see the current standings [click here](#)

Dave Joffe
Editor-in-Chief

"Tools" for Your Practice:

An UPDATED Action Plan for you to print for each patient. It provides Goals and reasons to control Blood Sugars. [My Action Plan to Control My Blood Sugar](#) (PDF Format)

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Monthly Feature On Nutrition:

Exercise: A Key Treatment for Type 2 Diabetes

Learn about Exercise and how to introduce it to your patients for better results

By Sherri Shafer, R.D., CDE,

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News Flash - News Flash

Inhaled Insulin shows showed significantly greater decreases in both fasting plasma glucose concentrations (a measurement taken before breakfast) and two-hour post-prandial glucose levels (a measurement taken after a meal) compared to patients who took only insulin injections.

See Item #2 Below:

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New Product information:

A Disposable Remote Control Insulin Pump



Famous Person with Diabetes



Karen Yoshiko Matsuoka, 1999 Rhodes Scholar, to Oxford University, was diagnosed at age 8 with juvenile diabetes.....

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Dr. Richard Bernstein's Corner:

Check out Dr. Bernsteins Corner for Insights for Controlling Blood Sugars

<http://www.diabetesincontrol.com/bernsteinarchive.htm>

This Month, Dr. Bernstein is providing us with Exercises That Facilitate Stomach-Emptying for those with Gastroparesis

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This newsletter is the condensed version. If you would like to see the full newsletter go to <http://www.diabetesincontrol.com>

OPEN STUDY for your participation

Study #12

Room for a few more! Don't miss this opportunity!

The Patient Experience Program – We have over 50 educators and 500 patients registered for the study. We still need 8 more educators who can



provide 10 patients for the study. The Patient Experience Program (PEP) seeks to bridge research and educational programs to healthcare professionals, patients and their families through a collaborative effort to promote public health and to help people with Type 2 diabetes improve their quality of life. **Honorariums Paid** [Click Right Here!](#)

2 NEW STUDIES WILL BE STARTING NEXT MONTH

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By referring your friends and colleagues to Diabetes in Control you can win a free scholarship to the 2002 AADE conference in Philadelphia.

<http://www.diabetesincontrol.com/scholarship.shtml>

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This Weeks Items:

1. **AACE: Long-term Lipid Benefits of Pioglitazone for Patients with Type 2 Diabetes**
[Click Here](#)
2. **AACE: Inhaled Insulin Shows Better Results Subcutaneous Formulation***
[Click Here](#)
3. **Item Revisited: IGT is a More Advanced Stage of Alteration in the Glucose Metabolism than IFG**
[Click Here](#)
4. **Multiple Injections in Type 2 Diabetics Not Effective Long-Term**
[Click Here](#)
5. **Not All Glitazone Drugs Toxic to Liver**
[Click Here](#)
6. **New Model Predicts a Person's Risk for Type 2 Diabetes***
[Click Here](#)
7. **Avandia and Metformin have Synergistic Effects for Improved Glycemic Control in High-Risk Diabetes Patients**
[Click Here](#)
8. **A Cure for Type 2 Diabetes, Is It Possible?**
[Click Here](#)
9. **Pre-Diabetes is Treatable and Billable!**
[Click Here](#)
10. **Cozaar Comes Out on Top in Preventing Stroke and Diabetes**
[Click Here](#)
11. **New Diabetes Drug Shows Promise!***
[Click Here](#)
12. **Conventional Diet, Exercise Yields More Sustained Weight Loss in Type 2 Diabetes**
[Click Here](#)
13. **Quality of U.S. Diabetes Care is Below Standard!**
[Click Here](#)
14. **Statins, Are They For All Your Diabetic and Non-Diabetic Patients?**
[Click Here](#)
15. **Dietary Oat Fiber Reduces Need for Antihypertensive Medication**
[Click Here](#)

ITEMS For The Week:

Item #1

AACE: Long-term Lipid Benefits of Pioglitazone for Patients with Type 2 Diabetes
Study showed an improvement in HDL as well as the lowering of triglycerides

Type 2 diabetics receiving pioglitazone for one year, at 45 mg/day showed improved high-density lipoprotein (HDL) cholesterol levels as well as lowered glycemic and triglyceride levels, researchers

reported last week at the annual meeting of the American Association of Clinical Endocrinologists.

"These changes should have a positive benefit on coronary heart disease associated with diabetes," the researchers concluded.

The investigative team, led by Allen King, MD, Medical Director of the Diabetes Care Center in Salinas, California, United States, did a retrospective analysis of the charts of patients with type 2 diabetes who had received pioglitazone at 45 mg/day and whose hemoglobin A1c (HbA1c) and lipid panel values had been recorded at intervals appropriate for this retrospective analysis.

Excluded from the study were patients whose pioglitazone treatment had been interrupted and patients whose dosage of lipid lowering drug had been altered during the course of a 12-month treatment or within six weeks of the initiation of pioglitazone therapy.

Of the more than 800 patients who had received pioglitazone treatment at the center, 29 met all entry criteria. The mean duration of treatment at each interval of lipid measurement was as follows: 1.) within four weeks of initiating pioglitazone therapy; 2.) at a mean of 3.6 months of therapy; and 3.) at 11.6 months of therapy. Almost half (47 percent) of the subjects were women and 15 of the 29 subjects were also taking statin therapy. The mean age was 54.9 years.

At 12 months, the investigators found that total cholesterol and LDL cholesterol changes were small, at 3.2 percent for the former and 0 percent for the later. However, HDL cholesterol increased by 16.8 percent ($p < 0.01$ versus baseline). Glycemic (HbA1c) readings declined by 1.30 percent units, and triglyceride readings fell by 33.9 percent ($p < 0.01$ versus baseline).

The researchers concluded "Pioglitazone treatment seems to offer long-term benefits with regard to HDL-C and triglyceride levels." "These durable benefits in both HDL-C and triglyceride levels are especially interesting because diabetic patients whose treatment enables them to increase HDL-C levels do not necessarily experience a decrease in triglyceride levels. It is therefore interesting to find that [pioglitazone] therapy produced benefits in both HDL-C and triglyceride levels; this long-term improvement in patient lipid profiles could ultimately result in decreased incidence of coronary heart disease."

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If your patients are having a problem paying for their medications go to www.diabetesmeds.org and download the application that will allow them to get all of their medications for 10 dollars or less for a 90 day supply.

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Item #2

AACE: Inhaled Insulin Shows Better Results Subcutaneous Formulation

Inhaled insulin reduced fasting and postprandial levels more effectively than injectable insulin

The investigational inhaled insulin agent Exubera® is well-tolerated by patients with Type 1 diabetes and reduces fasting plasma glucose and two-hour post-prandial glucose levels significantly more effectively than does conventional subcutaneous insulin treatment. That's what researchers reported from their multicenter study at the AACE meeting in Chicago last week.

"This treatment by inhalation -- pre-meal and in association with one injection of long-acting insulin -- provides comparable control with less incidence of blood sugar reactions, which is a major concern in diabetes treatment," said Exubera phase III study group researcher Teresa Quattrin, MD, associate professor of medicine at the State University of New York Medical School in Buffalo. "It was safe, well-tolerated and really made life better for the patients, according to the 'treatment satisfaction' questionnaires."

The patients were watched very closely to make sure they followed the protocols and did not change their diet. "This form of delivering insulin is novel, noninvasive and provides comparable diabetes control to the conventional regimen, which requires two to three injections daily," Dr. Quattrin added.

For this open-label, randomized, six-month study, investigators enrolled 335 subjects aged 12 to 65

years who had been diagnosed with diabetes mellitus for at least one year. They participated for two months prior to study entry in a stable subcutaneous insulin regimen with at least two insulin or insulin analog injections per day.

In the study, 170 patients received insulin delivered as one to two inhalations of 1 mg and 3 mg before meals, plus one bedtime injection of Ultralente®. One hundred and sixty-five subjects received two to three subcutaneous injections insulin or insulin analog.

The primary efficacy end point was the change in glycemic control (change in HbA1c) from baseline to week 24.

In addition, patients using Exubera® showed significantly greater decreases in both fasting plasma glucose concentrations (a measurement taken before breakfast) and two-hour post-prandial glucose levels (a measurement taken after a meal) compared to patients who took only insulin injections. Patients in both the Exubera® and multiple injection groups worked with their physicians during the study to adjust their insulin dose to optimize blood glucose control.

At week 24, the HbA1c reduction was from 8.1 percent to 7.9 percent in the inhaled insulin group and from 8.1 percent to 7.7 percent in the subcutaneous injection group. Fasting plasma glucose and two-hour post-prandial glucose readings showed significantly greater reductions in the inhaled insulin group, with -35 mg/dL and -30mg/dL for the inhaled insulin group and -10 mg/dL and 1 mg/dL for the subcutaneous insulin group.

A total of 58.0 percent and 15.9 percent respectively reached an HbA1c level below 8 percent and below 7 percent for the inhaled insulin group, and 61.9 percent and 15.5 percent respectively for the subcutaneous insulin group.

A greater improvement in satisfaction with treatment among patients treated with inhaled insulin than in those treated with subcutaneous insulin.

Patients treated with inhaled insulin had a lower risk of hypoglycemic events (measured in events/subject per month; (8.6) than did patients treated with subcutaneous insulin (9.0; CI: 0.93, 0.99). The difference in severe events was not significant (5.5 vs. 4.7 events per 100 subjects per month respectively).

The researchers concluded that inhaled insulin "may provide a valuable noninvasive therapy for people with type 1 diabetes".

The study was sponsored by Pfizer Global Research and Development and Inhale Therapeutic Systems.

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Item #3 Revisited from Issue #83 Oct. 10, 2001

Impaired Glucose Tolerance is a More Advanced Stage of Alteration in the Glucose Metabolism than Impaired Fasting Glucose

Recent reports have shown a lack of agreement between the impaired glucose tolerance (IGT) and the impaired fasting glucose (IFG) categories, suggesting that correspond to different impaired glucose metabolism stages.

The purpose of the study was to determine the differences of serum insulin levels between subjects with IFG and IGT diagnoses. Methods: Cross-sectional study of 52 subjects with IFG and 48 with IGT diagnosis, and a euglycemic group of 140 subjects. Serum glucose and insulin were measured in both fasting and 2-h 75-g oral post-load glucose (2-h PG).

Results: Subjects with IFG showed the highest fasting and 2-h PG serum insulin levels, whereas subject with IGT the lowest. Serum insulin values showed no significant changes between the fasting and 2-h PG conditions in the subjects with IGT, whereas the subjects with IFG showed significant hyperinsulinemia. The serum glucose 2-h PG showed an increase of 0.2 mmol/l (CI95% 0.07-0.33), 0.5 mmol/l (CI95% 0.41-0.58) and 3.6 mmol/l (CI95% 3.39-3.81) with respect to basal values, whereas the increase of serum insulin 2-h PG was of 54 pmol/l (CI95% 53.71-55.29), 918 pmol/l

(CI95% 917.49-918.51) and 0.5 pmol/l (CI95% 0.15-0.84) for the euglycemic, IFG and IGT subjects, respectively.

Conclusions: This study demonstrates that subjects with IFG show hyperinsulinemia whereas those with IGT have low insulin secretion in response to oral load glucose, suggesting that IFG and IGT correspond to different stages of impaired glucose metabolism. *Journal of Diabetes and its Complications* 2001 15/1 (34-37)

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FACT:

In a recent study, the caffeine consumed in 5 cups of coffee daily caused a mild increase in blood pressure in elderly people who already had hypertension, but not in those who had normal blood pressures. What's more, the combination of smoking and drinking coffee in persons with high blood pressure may increase the blood pressure more than coffee alone. Limiting caffeine intake and cigarette smoking in hypertensive individuals, therefore, may be of some benefit in controlling their high blood pressure.

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Item #4

Multiple Injections in Type 2 Diabetics Not Effective Long-Term

"A rapid increase in Beta-cell function by multiple insulin injections in type 2 diabetic patients is not further enhanced by prolonging treatment"

Multiple insulin injection (MI) rapidly improves insulin secretion in type 2 diabetic patients but treatment over a longer period brings no further improvement.

According to researchers at the Stockholm's Sjukhem Foundation and Karolinska Hospital, Stockholm, Sweden, this finding suggests that prolonged MI treatment should not be used as a prelude to other therapeutic regimens.

This randomized study of 20 type 2 diabetics, who displayed features of secondary failure, also found that MI had undesirable effects on body weight.

While MI in such patients improves β -cell function, the length of treatment for maximum improvement was not previously known.

MI was given randomly to ten subjects for nine weeks and the other ten continued their oral medication and started with bedtime insulin (BTI). Those on MI switched to BTI and glibenclamide after the nine weeks.

After three days of MI, a decrease was found in fasting proinsulin/insulin ratio (0.43 ± 0.20 vs. 0.29 ± 0.11 , $P=0.01$), while there was an increase in glucagon-stimulated C-peptide over baseline (0.77 ± 0.43 vs. 1.28 ± 0.44 nmol/L, $P=0.02$).

At the end of the nine weeks, those on MI had "successively decreased fasting and nonfasting blood glucose in parallel with increasing insulin dosage." Although the initial improvements in secretion parameters were upheld, there was no further enhancement.

At nine weeks, the proinsulin/insulin ratio was 99 ± 23 percent and the glucagon-stimulated C-peptide was 95 ± 24 percent of the values shown following three days of treatment.

A total weight gain persisted eight weeks after the end of MI treatment which was inclined to be more than after continuous oral medication with BTI.

Journal of Internal Medicine 251 (4), 307-316

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DID YOU KNOW?

Smoking a cigarette can repeatedly produce an immediate, temporary rise in the blood pressure of 5 to 10 mm Hg. Steady smokers however, actually may have a lower blood

pressure than nonsmokers. The reason for this is that the nicotine in the cigarettes causes a decrease in appetite, which leads to weight loss.

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Item #5

Not All Glitazone Drugs Toxic to Liver

Diabetes Drug Avandia Poses Minimal Harm to Liver

The type 2 diabetes drug Avandia (rosiglitazone) does not appear to cause any more harm to the liver than other types of diabetes drugs, such as insulin, according to a new report published in the May issue of the journal Diabetes Care. And, unlike its chemical cousin Rezulin (troglitazone), it is not associated with liver failure.

Glitazone drugs are sold under brand names Avandia and Actos and are used to treat a type of diabetes called type 2 (or non-insulin dependent) diabetes--the most common and most rapidly increasing type of diabetes--by reducing patients' insulin resistance.

Rezulin was taken off the market 2 years ago because of concerns about possible liver damage. This sparked concern about the possibility of the other glitazone drugs causing similar liver damage or liver failure.

A review of clinical trials originally conducted by SmithKline Beecham Pharmaceuticals--the maker of Avandia--was undertaken by Dr. Harold E. Lebovitz of State University of New York in Brooklyn. Lebovitz, who is a major stock shareholder in SmithKline Beecham, also sits on the company's advisory board.

Lebovitz and his team re-examined the data from 13 studies that originally aimed to examine the efficacy and safety of Avandia. No evidence of (liver toxic) effects was observed in studies that involved 5,006 patients taking rosiglitazone. *Diabetes Care 2002;25:815-821.*

Item #6

New Model Predicts a Person's Risk for Type 2 Diabetes

A new simple mathematical model performs as well as the OGTT to predict a person's risk of developing type 2 diabetes and could change diabetes care.

That's what a new study, by researchers at the University of Texas Health Science Center, suggests. Along with his colleagues, statistician Ken Williams collected data on blood pressure, medical history and sugar levels after fasting and during an OGT test for 1,791 Mexican Americans and 1,112 whites. None had diabetes, and all were checked again 7.5 years later.

Williams then compared the predictive accuracy of three models: one that included only the OGT test results; one that used only the other clinical data; and a third that combined both the clinical information and the OGT test data.

For OGT data alone, the predictive accuracy was 77.5 percent, while the clinical data's predictive accuracy reached 84.3 percent. If both were used together, the predictive accuracy peaked at 85.7 percent.

"Physicians can do a better job of assessing risk for developing diabetes by looking at the variety of indicators at their disposal from a standard physical exam than they can by focusing entirely on the results of an oral glucose tolerance test," Williams says.

Williams adds patients might also prefer the mathematical model over the OGT test, which requires that they fast for 12 hours, take a blood test, then wait at their medical provider's office for another two hours for another blood test. "That costs the patient two hours of their time," Williams says.

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Did you know?

If everyone who qualifies for screening under the latest standards had OGT tests – including most minorities, non-Hispanic whites over 45, and younger non-Hispanic whites with certain risk factors – the indirect cost of lost work hours could be \$1.16 billion to \$3.08 billion.

Item #7

Avandia and Metformin have Synergistic Effects for Improved Glycemic Control in High-Risk Diabetes Patients

Adding Avandia® Increased Insulin Sensitivity, Improved Certain Lipid Parameters Without Hypoglycemia

Results from a study published recently in *Diabetes/Metabolism: Research and Reviews* showed that adding the insulin sensitizing agent Avandia® (rosiglitazone maleate) to metformin significantly helped improve blood sugar levels in Mexican patients whose type 2 diabetes was inadequately controlled by metformin alone. Type 2 diabetes is the third leading cause of death in Mexico and is also a serious and growing problem among Mexican immigrants to the United States. Indeed, in the United States, diabetes currently affects more than one million Mexican-Americans, resulting in an increased incidence of diabetes-related complications compared to non-Hispanic Caucasians. This is largely attributed to a higher incidence of insulin resistance, an underlying cause of the disease.

In this controlled trial, researchers found that adding Avandia to metformin therapy had a positive effect on several metabolic deficiencies of type 2 diabetes, including insulin resistance and certain lipid parameters. Specifically, Avandia increased high density lipoprotein (HDL or "good") cholesterol, reduced triglycerides and significantly decreased free fatty acid levels. Elevated levels of free fatty acids have been associated with insulin resistance, and with possible damage to the insulin-producing beta cells in the pancreas. In addition, this study reported a low incidence of hypoglycemia (or low blood sugar) in all treatment groups.

"With complementary mechanisms of action, Avandia and metformin seem to be working in an additive fashion to achieve improved blood sugar levels, with a low risk of hypoglycemia," said Martin Freed, M.D., Global Vice President, Metabolism Therapeutic Area, Clinical Development and Medical Affairs, GlaxoSmithKline.

Avandia directly targets insulin resistance by increasing insulin sensitivity in the muscle and adipose tissue, while metformin primarily works by decreasing the output of glucose (or sugar) by the liver. Due to the limitations of traditional monotherapy, most patients require combination treatment in the long term. In fact, the United Kingdom Prospective Diabetes Study (UKPDS) showed that the majority of patients on metformin alone required combination therapy after three years.

Importance of Aggressive Diabetes Management

In the long term, untreated or poorly managed type 2 diabetes can lead to serious and life-threatening complications, including heart disease, heart attack, stroke, kidney disease, nerve damage and blindness. Importantly, this study in Mexican patients showed that A1C levels -- the most effective measure of long-term diabetes control -- were reduced significantly in more patients who received Avandia therapy added to metformin than in patients taking the highest dose of metformin alone. In contrast, A1C levels actually increased in the metformin treatment group.

Increases in A1C levels are directly linked to increases in a patient's risk for cardiovascular disease, a serious diabetes-related complication. To help minimize complications, American Diabetes Association guidelines advocate A1C levels of less than seven percent as the target for diabetes control.

"It is clear from the results of our study, that adding Avandia to metformin significantly lowers A1C levels, improving blood sugar levels while minimizing the risk of hypoglycemia," said Francisco Gomez-Perez, M.D., Head, Endocrinology and Metabolism Department, Instituto Nacional de Ciencias Medicas y Nutricion "

Investigators found that compared with baseline levels and with metformin therapy alone, combination treatment significantly reduced levels of fasting plasma glucose and A1C in a dose-dependent manner. In addition, results of the study showed a decrease in insulin resistance as measured by the reduction

of immunoreactive insulin and C-peptide levels in the Avandia groups.

Avandia-treated patients experienced increases in HDL cholesterol, reductions in triglyceride levels, and statistically significant reductions in concentrations of free fatty acids. Elevated levels of free fatty acids have been linked to insulin resistance; toxic effects on pancreatic beta cells; and possibly vascular abnormalities.

Overall, the Avandia regimens were well tolerated. The incidence of adverse events was similar in all three treatment groups, and patients in the Avandia treatment groups generally experienced minimal weight gain (<3 kg). There were no reports of significant hypoglycemia across treatment groups.

SOURCE: GlaxoSmithKline

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The First Instant Disposable HbA1c Test is Now Available for Home and Office.

Know your number TODAY! And prevent the complications from diabetes TOMORROW!

If you are not using an A1c test that gives results while the patient is in front of you, you are missing a great opportunity to motivate. The A1cNow test is now available for shipping. You can now have your patients check their HbA1c when they come in for their appointments.

Studies have shown that by having the results when you consult your patient, that you will have better compliance and more positive results. For a special price go to www.A1cNow.net

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Item #8

A Cure for Type 2 Diabetes, Is It Possible?

Identification of Insulin-Clearing Protein Could Lead to Cure for Type 2 Diabetes.

Researchers have identified a protein in the liver that helps clear insulin from blood, a discovery that could eventually lead to a cure for type 2 diabetes.

Scientists have long believed that type 2 diabetes begins when the body's muscles, fat tissues, and liver stop responding to insulin. Insulin brings sugar from blood into muscle and fat tissues to be stored as fuel and stops the liver from making its own sugar. Lack of response to insulin in type 2 diabetes leads to increased sugar levels in blood.

Sonia M. Najjar, Ph.D., associate professor of pharmacology and therapeutics at the Medical College of Ohio, contends that type 2 diabetes may actually begin a step before the body starts resisting insulin.

Using genetically modified mice, Najjar showed that when there is increased fat in the body, the liver's ability to clear insulin is impaired. This, in turn, can lead to insulin resistance in the liver and other tissues, resulting in type 2 diabetes.

This finding, coupled with the identification of CEACAM1, a liver protein that controls insulin clearance, may play a major role in the battle against type 2 diabetes. Najjar's report on the function of the CEACAM1 protein in insulin clearance will be published in the March 2002 issue of Nature Genetics and can be read online at the journal's Website.

Type 2 diabetes affects 16 million people in the United States and is often linked to obesity. Increased obesity results in younger and younger individuals being diagnosed with type 2 diabetes. Deaths related to obesity now rank second only to deaths related to tobacco. And diabetes is the seventh-leading cause of death in the United States.

Finding a cure for type 2 diabetes becomes more vital as more and younger Americans become obese. "I can easily envision a drug that enhances the function of this protein and leads to a cure for type 2 diabetes," Najjar said.

The National Institute of Diabetes, Digestive and Kidney Diseases and the American Diabetes

Association currently sponsor Najjar's research, previously funded by the Medical College of Ohio Foundation.

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Did You Know:

People who drink alcohol excessively (over two drinks per day) have a one and a half to two times increase in the frequency of high blood pressure (hypertension). The association between alcohol and high blood pressure is particularly noticeable when the alcohol intake exceeds 5 drinks per day. Moreover, the connection is a dose-related phenomenon. In other words, the more alcohol that is consumed, the stronger is the link with hypertension.

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Item #9

Pre-Diabetes is Treatable and Billable!

At the recent AACE Meeting in Chicago last week, Dr. Ratner, MD, FACE and principal investigator for the DPP stated that we can prevent or delay the development of Type 2 diabetes.

Because of the Diabetes Prevention Program, there is now a ICD-9 code (277.7) that will allow you to bill for Pre-Diabetes and even the IRS has come on board and will allow you to deduct programs to reduce obesity and insulin resistance on your income taxes.

For each one of the 16 million Americans who have Type II diabetes, there's another one at risk of joining their ranks, the government said today.

"Pre-diabetes," which is a new term to describe an elevated but not technically diabetic blood sugar reading, is not only a stepping stone to full-blown diabetes, it also increases the risk of heart attacks, strokes and heart disease by 50 percent. New government figures released today estimate that 16 million Americans over the age of 40 are pre-diabetic.

"The good news is if you have pre-diabetes, you can do something about it," said Tommy Thompson, Secretary of Health and Human Services (HHS), in a statement today. "We want people to know that pre-diabetes is a serious condition that can be reversed or alleviated with modest changes in their daily routines -- such as eating fewer calories and walking regularly for exercise."

The number of people with either form of diabetes -- Type I or, more commonly, Type II -- has reached 17 million, an 8 percent increase over earlier estimates, Thompson said. Of those, 5.9 million don't know they have the disease.

At least 90 percent of American diabetics have Type II, or adult-onset, form, which is closely linked to obesity. As the number of overweight Americans has climbed sharply in recent decades, so, too, has the number of diabetics.

People with pre-diabetes generally develop full diabetes within a decade of showing abnormal blood glucose. If unchecked, diabetes can cause blindness, kidney failure, heart attacks, strokes, and a laundry list of other serious complications. Its toll: 180,000 deaths a year, many of which are preventable.

HHS, the American Diabetes Association, and other diabetes experts announced the new data at a press conference where they issued new guidelines for doctors to stave off the progression of the disease.

Chief among these is routine screening for pre-diabetes for all overweight people who are over age 45, either with a fasting blood glucose test or the oral glucose tolerance test. The tests measure how well a person's body is processing blood sugar, and reflect sensitivity to the hormone insulin. Insulin helps cells convert glucose into energy.

The guidelines also call on doctors to screen for pre-diabetes in seriously overweight people under 45 if they have the following risk factors: a family history of diabetes, high blood pressure, and abnormal blood fats. Women with a history of pregnancy-related, or gestational, diabetes, and those who delivered a baby nine pounds or heavier, are also considered at risk, as are members of racial minority

groups, including Latinos, African Americans, American Indians, Asian Americans and Pacific Islanders.

"This new recommendation gives physicians added incentive to screen their middle-aged, overweight patients for both Type II diabetes and pre-diabetes," Dr. Francine Kaufman, president-elect of the American Diabetes Association, said in a statement. "If you have pre-diabetes, you need to know it, so you can learn about the high risk of getting diabetes and the steps you can take to prevent it. If you already have diabetes, you need to be treated early to prevent complications."

Dr. Frank Hu, a Harvard University nutrition expert, said the concept of pre-diabetes "is important, in that pre-diabetes, if not intervened, can be easily changed to diabetes."

Studies show "very clearly," he added, that people on the brink of diabetes can be brought back into sound health through diet, regular exercise, and other lifestyle changes.

Diet and exercise alterations that lead to a 5 percent to 7 percent drop in weight can cut the risk of Type II diabetes by almost 60 percent, health officials said.

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Item #10

Cozaar Comes Out on Top in Preventing Stroke and Diabetes

A large head-to-head comparison of two widely used blood pressure pills found one dramatically superior in preventing strokes and diabetes, even though they are equal at reducing hypertension.

The winner was Merck's Cozaar, which was pitted against the older and widely used beta blocker drug known generically as atenolol. The study was paid for by Merck.

Typically, doctors are satisfied simply to get patients' high blood pressure down and feel it does not matter much which kind of drug accomplishes the goal. The new study is the first to show that how blood pressure is lowered can be important, too.

The study found that patients on Cozaar were 25 percent less likely to suffer strokes and 25 percent less likely to develop diabetes. However, the two drugs lowered patients' blood pressure virtually identically.

Dr. Bjorn Dahlof of Goteburg University in Sweden presented the results last month in Atlanta of the American College of Cardiology. The study was also published in last week's issue of the British journal Lancet.

Dahlof said, "We have known for many years that it matters to lower blood pressure,". "We now know that it matters how we lower blood pressure."

The study involved 9,193 men and women with hypertension in Scandinavia and the United States. All had signs of thickening of the heart's main pumping chamber, an ominous sign of blood pressure damage.

In the United States, about 3.9 million people have these conditions. Putting all of them on Cozaar instead of atenolol would prevent an additional 66,000 strokes and 54,000 new cases of diabetes annually.

Atenolol - or Tenormin - is one of many beta blockers that are widely prescribed after heart attacks. Dahlof said heart attack victims who also have high blood pressure should probably take both medicines.

Cozaar was the first of a newer class of blood pressure medicines known as angiotensin II antagonists.

Smith noted that the ACE inhibitors, another class of hypertension medicine, have also been shown to help prevent diabetes, though not in a head-to-head comparison with a beta blocker.

During almost five years of follow-up, there were 232 strokes among patients on Cozaar, compared with 309 in those taking atenolol. In addition, 241 of the Cozaar patients developed diabetes, as did

319 on atenolol.

Cozaar appeared to be especially effective in those who already had diabetes. Their risk was of dying from cardiovascular disease was 37 percent lower than the atenolol patients'.

Cozzaar has properties that go beyond blood pressure lowering, although just what these are is not entirely known.

Dahlof estimated that one-third of the additional benefit comes from Cozaar's better reduction of heart wall thickening, while another third might be due to lowering of uric acid.

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Did you know?

That providing an Action Plan you can get better outcomes. See the "Action Plan" this week in tools for your practice. Print it out and make sure every patient gets their own "Action Plan" Click on the link below to print out a the "Action Plan" (Requires Acrobat Reader)
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Item #11

New Diabetes Drug Shows Promise!

Works differently than anything else that is available

A drug that blocks a particular enzyme that affects blood-sugar control has shown early promise in treating type 2 diabetes, according to study findings released Friday.

Type 2 diabetes, which usually strikes in adulthood, is marked by poorly controlled blood sugar, or glucose, and arises from the body's inability to properly use the hormone insulin, the body's key blood-sugar regulator. The study of 93 adults in the early stages of type 2 diabetes found that over 4 weeks, the oral drug lowered patients' levels of blood glucose.

The new drug acts by inhibiting an enzyme known as DPP IV, which breaks down other hormones that help control blood glucose.

"This study provides the first evidence that...DPP IV inhibition is feasible for the treatment of type 2 diabetes in humans," Dr. Bo Ahren of Lund University in Malmo, Sweden, and colleagues report in the May issue of Diabetes Care.

In their study, two or three daily doses of a DPP IV inhibitor before meals lowered patients' glucose levels overall, according to the report. All of the patients were in relatively early stages of type 2 diabetes and had been treated with exercise and diet regimens alone. Oral drugs and insulin injections are often also needed to manage the disease.

The researchers conclude that inhibition of DPP IV is a "feasible approach" to treating the early stages of type 2 diabetes. They add that further research will be needed to look at the long-term effects of such treatment, as well as how it works against more advanced diabetes and in combination with other diabetes drugs. *SOURCE: Diabetes Care 2002;25:869-875.*

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Item #12

Conventional Diet, Exercise Yields More Sustained Weight Loss in Type 2 Diabetes

"Five year results of a very low calorie diet or conventional weight loss program in type 2 diabetes."

A conventional diet and exercise is likely to produce slower but more sustained weight loss than a very-low-calorie diet (VLCD), according to a five year follow-up of two groups of patients with type 2 diabetes who chose one of the two regimens.

Weight loss was slower in the intensive conventional diet group than in the VLCD group, but better maintained at five years. In the intensive conventional diet group, year high-density lipoprotein

cholesterol was increased, and diastolic blood pressure reduced, report researchers at The Diabetes Research Group, Torbay Hospital, Torquay, England.

They also report that outpatient VLCD did prove safe and effective. "Diabetic patients willing to attempt the diet may safely lose sufficient weight to allow major surgery, but weight regain will be inevitable," they say. "Patients willing to undertake a long-term group programme of conventional diet can sustain significant weight loss for years, but still require anti-diabetic medication."

Forty-five patients with type 2 diabetes and a body mass index (BMI) of 30 or greater expressed interest in an intensive weight loss programme. One group of 15 selected a very low calorie diet, while a second group of 15 selected intensive conventional diet and exercise (ICD). Fifteen patients failed to follow either programme.

Group sessions of eight to 15 subjects continued weekly for six months, then monthly for 12 months. Quality of life, BMI, waist/hip ratio, blood pressure, fasting blood glucose, serum fructosamine and serum lipids were prospectively recorded at three, six and 12 months, and then annually. *Journal of Human Nutrition & Dietetics Volume 15 Issue 2 Page 121 - April 2002.*

FACT

Exercise causes cells to become more sensitive to insulin, so sugar is taken out of the blood, and exercising muscles use more sugar. The result is a more normal blood sugar level.

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Item #13

Quality of U.S. Diabetes Care is Below Standard!

The level of care that diabetes patients receive in the United States falls far below current national recommendations, that from the Annals of Internal Medicine.

The first, the Third U.S. National Health and Nutrition Examination Survey (NHANES III) ran from 1988 to 1994, and the second, from the Behavioral Risk Factors Surveillance System (BRFSS), gathered information in 1995. All the people in the study, 1,026 from NHANES III and 3,059 from BRFSS, were between 18 and 75 years old and had been diagnosed with diabetes.

Diabetes is a serious disease, but most of the complications could be prevented or delayed with the appropriate treatment and interventions.

Diabetes care in the United States can be vastly improved and such improvement, may yield substantial health benefits.

Overall, **only about 30% of the respondents had had their hemoglobin A1c**, which measures long-term blood sugar control, tested during the previous 12 months and 18% of them had levels greater than 9.5%, indicating that their blood sugar was poorly controlled. Further, only about 4 in 10 respondents said they monitored their blood glucose level at least once every day.

Roughly one third of respondents reported having **poorly controlled blood pressure, about 37% said they did not have annual dilated eye examinations and 45% said they did not undergo annual foot exams.**

People with diabetes face a high risk of blindness, which is why they are urged to have eye exams annually. Foot exams are also crucial because people with diabetes can develop sores on their feet that can become infected and ultimately lead to the need for amputation.

"When applied to the estimated 7.9 million persons 18 to 75 years of age in the United States who have diagnosed diabetes, these statistics translated to an estimated 1.4 million persons with hemoglobin A1c levels greater than 9.5%, 2.7 million with uncontrolled blood pressure, 2.9 million without annual dilated eye examinations, and 3.6 million without annual foot examinations. [*Annals of Internal Medicine* April, 2002; 136:565-574](#)

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Item #14

Statins. Are They For All Your Diabetic and Non-Diabetic Patients?

Experts say the statins' do much more than lower your cholesterol. Taking statins cuts your odds of a heart attack by 40 percent, your odds of diabetes by 30 percent. It also reduces your risk of cancer, brittle bones and apparently it even helps stop HIV.

Yet, Studies have shown that about 30% of seniors should be on a statin drug, but only 4% are!

It's a single pill that does so much. Bill Clinton takes one every day, as do eight million others. More and more studies are showing Statins' benefits have very little to do with lowering your cholesterol. Their benefits, even for heart disease, come from something else.

More and more studies show their benefits have very little to do with actively lowering your cholesterol. Their benefits, even for heart disease, come from something else.

Statins actually prevent inflammation of your cells. Therefore, Statins stop heart attacks even if your cholesterol is normal. Statins work so fast they can stop heart attacks just about to occur, by reducing the inflammation that leads to a sudden heart block.

But their effects don't stop there. Two studies, just released, prove Statins can help prevent inflammation elsewhere as well. They can prevent or alleviate the symptoms of other diseases, including Multiple Sclerosis and Alzheimer's.

Some symptoms of Multiple Sclerosis such as blindness and numbness are caused when nerve cells become inflamed. Now researchers have announced Statins stop that inflammation in laboratory animals.

Alzheimer's disease researchers found Statin users are seventy-nine percent less likely to have Alzheimer's. This time, Statin prevents the inflammation that causes the development of amyloid plaques deep in your brain.

Statins may be miracle drugs but they come at a high price. While thirty percent of seniors should take the drug, only four percent are on the medication. Experts say the main reason for this is that Statins cost an average of \$1,500 a year, too much for the average senior to afford.

If you patients cannot afford to purchase a statin, then just go to www.diabetesmeds.org and print the form and have the patient fill it out. Instead of \$1500 dollars a year it would only cost them 40 dollars a year.

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Item #15

Dietary Oat Fiber Reduces Need for Antihypertensive Medication

Daily consumption of whole-grain oat cereal reduces blood pressure.

In patients already using antihypertensive medication, allows a decrease in dosage, investigators in Minnesota report.

In one of two separate trials, Joel J. Pins, of the University of Minnesota Medical School in Minneapolis, and colleagues randomized volunteers with hypertension to 137 grams of oat cereal daily, with approximately 12 grams of total fiber and 6 grams of soluble fiber. The control groups consumed wheat cereals with total fiber of approximately 3 grams and soluble fiber of <1.1 grams.

The researchers report in the April issue of The Journal of Family Practice that among the 45 subjects consuming oats daily, 73% were able to reduce their blood pressure medication. After 12 weeks, mean total cholesterol dropped by 15% and LDL cholesterol by 16%, and blood glucose levels improved significantly. However, during a 6-week follow-up after the trial, two-thirds had to resume their previous dose of medication.

In comparison, 42% the 43 subjects given the wheat cereal diet were able to decrease their dose of antihypertensive medication but experienced no significant reduction in total cholesterol or LDL cholesterol.

In a second study, the Minneapolis investigators assigned 18 untreated hypertensives with average systolic blood pressure of 130 to 160 mm Hg and diastolic pressure of 85 to 100 mm Hg to a similar intervention or control diet. Again, those in the oat cereal group, but not in the control group, experienced a "statistically and clinically significant decrease" in blood pressure after 6 weeks. Changes in cholesterol were also similar.

"Physicians may be justified in recommending to their hypertensive patients a dietary regimen that includes the daily consumption of whole-grain oats (equaling 6 grams of soluble fiber) in conjunction with their usual therapy," Pins and his associates conclude. *J Fam Pract* 2002;51: 353-359,369.

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Quote of the Week-----

"The ability to become highly physically conditioned is malleable and modifiable no matter what your age."

-----Andrew Goldberg, director of the Geriatric Research, Education and Clinical Center at the Baltimore VA Medical Center

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