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1. The ADVANCE Collaborative Group, Action in Diabetes and Vascular Disease: Preterax and Diamicon MR Controlled Evaluation. N Engl J Med 2008; 358: 2560-2572

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diabetesWATCH

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YEAR XXX, NO. 1
philippines

DP Goes to Bicolandia

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The diabetics guide to
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- Cusi K, Corsoli A, Defronzo RA. Metabolic effects of metformin on glucose and lactate metabolism in non-insulin dependent diabetes mellitus. *J Clin Endocrinol Metab* 1996; 81 (11): 4059-67.
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From the EDITOR'S DESK



Cardiovascular disease remains to be the biggest killer of people with diabetes. All efforts at lowering blood sugars and a variety of risk factors such as hypertension, hypercholesterolemia, obesity and others are aimed at reducing this important outcome, death from heart disease.

Stroke (brain attack) is a devastating complication of diabetes. Not infrequently, patients are admitted to the

stroke unit, not previously known to have diabetes. Stroke becomes the first manifestation of diabetes. It is unfortunate that many Filipinos continue to be unaware of diabetes. There is no national screening program in place. Diabetes awareness programs continue to take place, encouraging high risk patients to go and have their blood sugars checked for early diagnosis and appropriate early treatment.

This issue focuses on these hard end points, prevention of which is the center of diabetes care today. Hopefully, diabetic patients are able to learn about some of the warning signs of heart and brain attack to respond correctly to these acute events. More importantly, each day is a successful day when all of these risk factors are put under good control. Easier said than done, though, as cornerstone of control would still be lifestyle modification, that is, choosing to eat right and being physically active. And all these only the diabetic himself will choose to do.

Elizabeth Paz-Pacheco
Elizabeth Paz-Pacheco, MD
Editor-in-chief



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The prime mover of effective prevention and excellent diabetes care in the Philippines

OUR VISION

By 2020, we envision:

1. Fewer Filipinos with diabetes
2. Improved quality of life for Filipinos with diabetes

OUR VALUES

INTEGRITY *Above all, the nobility of our purpose.*

We serve patients, pursue education and conduct research with zeal and without regard for personal gain. Honesty and transparency rule our behavior in relating with fellow members, partners, supporters and other stakeholders of our organization.

EXCELLENCE *Passionate workers, we expect from ourselves only the best effort.*

We continuously upgrade our knowledge and skills, adopt ever-improving technologies, and expand the reach of our services to attain our vision. Our mentors, generous with their knowledge and time, model excellent leadership.

COOPERATION *We work as one for the common good, enjoying the camaraderie, observing respect and maintaining loyalty even in dissent. We partner with institutions and other specialties that aim for the same goal. Caring for everyone's well being, we make work pleasant for members and staff.*

COMMITMENT *Persistent in our search for solutions to diabetes. We have selflessly devoted five decades to the improvement of diabetes care, education and research to prevent the onset of the disease in high risk individuals and the complications in those already afflicted by it. We take on responsibilities with diligence until their successful conclusion.*

Your PRESIDENT SPEAKS



Type 2 Diabetes Mellitus is associated with serious complications. The risk for heart attack and stroke among people with diabetes is increased by 2 to 4 times. The risk for peripheral vascular disease that can lead to foot and or leg amputation is substantially increased. Fifty percent of newly presenting patients with type 2 diabetes already

have one or more complications at the time of diagnosis.

Risk factors that contribute to the development of diabetic complications include high blood sugar, high blood pressure, high blood cholesterol, triglycerides, obesity and cigarettes smoking.

Studies have shown that a one percent lowering of HbA1c reduces the complications of type 2 diabetes by sixteen percent (16%). It is important that people with diabetes take good control of their blood sugar, blood pressure, cholesterol, triglycerides and stop smoking in order to prevent the development of complications.

Tommy S. Ty Willing

Tommy S. Ty Willing, MD
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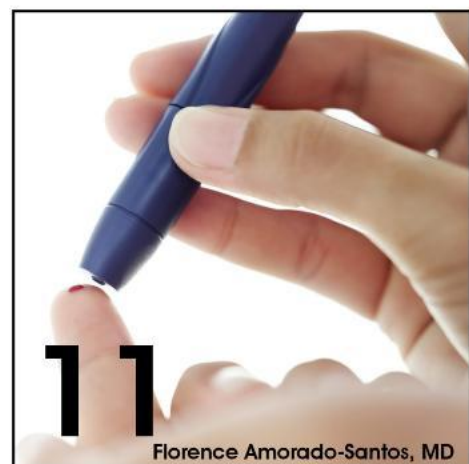
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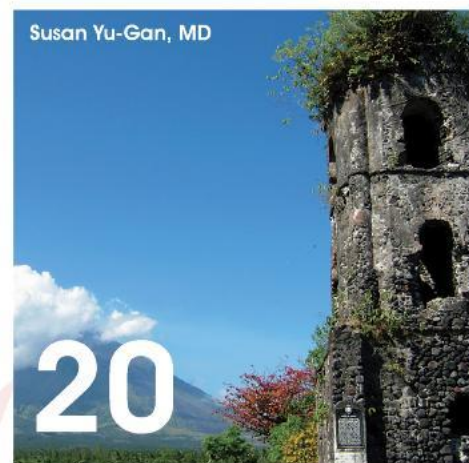
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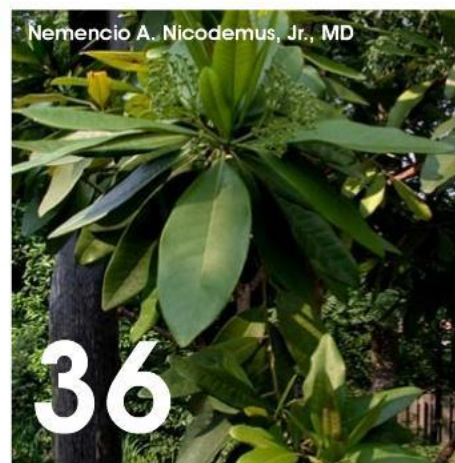
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MEANDERINGS



LIPID TESTS - Fasting or non-fasting?

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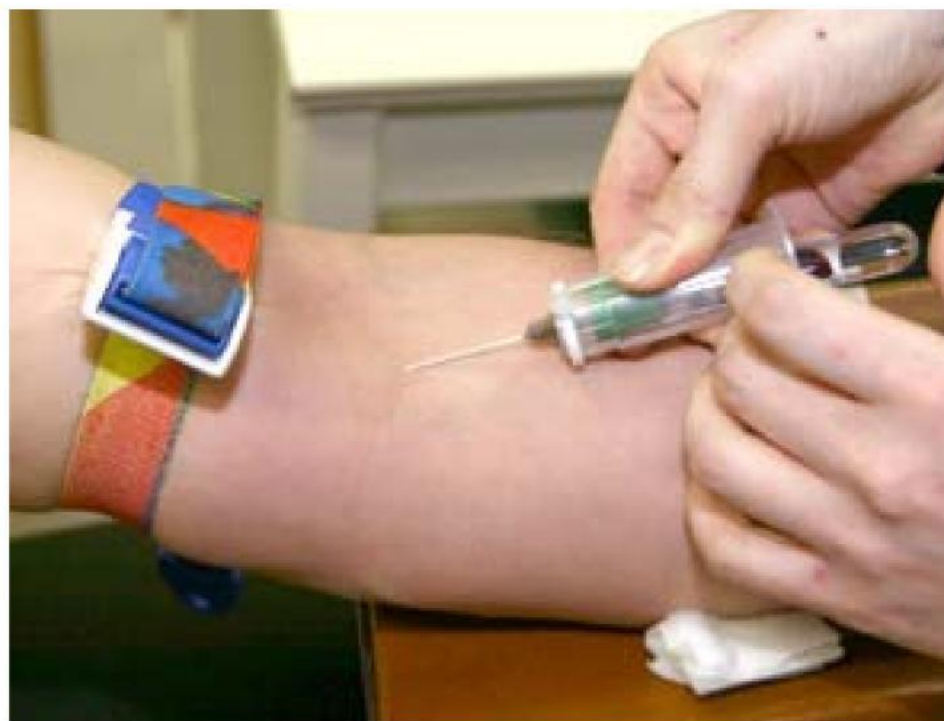


*The lipid profile which physicians request for in conjunction with the management of patients with type 2 diabetes mellitus consists of **CHOLESTEROL, TRIGLYCERIDES, and the LIPOPROTEINS (HDL and LDL)**.*

Cholesterol is a 'steroid with a secondary hydroxyl group in the C3 position. It is synthesized in many types of tissue, but particularly in the liver and intestinal wall. Approximately 3/4 of cholesterol is newly synthesized and 1/4 originates from dietary intake. Cholesterol assays are used for screening for atherosclerosis risk and in the diagnosis and treatment of disorders involving elevated cholesterol levels as well as lipid and lipoprotein metabolic disorders.'

Triglycerides are 'esters of the trihydric alcohol glycerol with 3 long chain fatty acids. They are partly synthesized in the liver and partly ingested in food. The determination of triglycerides is utilized in the diagnosis and treatment of patients having diabetes mellitus, nephrosis, liver obstruction, lipid metabolism disorders and numerous other endocrine diseases.'

Lipoproteins are used to transport cholesterol and triglycerides in the aqueous blood to make them miscible, since they are fatty substances. The lipoprotein which carry the lipids from the liver to the blood vessels are the



low density lipoproteins (LDL, or 'bad cholesterol'). They are called 'bad cholesterol' because we do not want the lipids to be deposited in the blood vessel wall which will make them hard, or atherosclerotic. The lipoproteins which carry the lipids away from the blood vessels to the liver are the high density lipoproteins (HDL, or 'good

cholesterol') as they aid in preventing atherosclerosis.

When should blood be taken from the patient for lipid tests? Convention says that blood should be extracted in the fasting state, or 10-12 hours from the last meal. But, is this appropriate?



First, let us take a look at Monnier's analysis of our 24 hour day, as related to our food intakes.

1. **POSTPRANDIAL** state - this is the four hours following a meal. If one takes breakfast at 7:00 in the morning, this state lasts up to 11:00 A.M. If one has lunch at 12:00 noon, then the postprandial state lasts up to 4:00 in the afternoon. Finally, if one sits down for dinner at 7:00 at night, then the postprandial state will last up to 11:00 at night. The postprandial state is that wherein the blood sugar is obtained from the food we eat.

2. **POSTABSORPTIVE** state - this is the 6 hour period which follows the postprandial state. The origin of the blood sugar is from the breakdown of our glycogen stores in the liver and muscles. Following the example in (1). It is 11-12 in the morning, 4-7 in the evening and 11 at night to 5 in the morning.

3. **FASTING** state - this is the period which follows the postabsorptive state. As in the above example (1), the fasting period is only the 2 hour period from 5 in the early morning to breakfast, which is 7:00 A.M. This is the time when all sugar stores in the body are exhausted, and the body turns to its

fat stores for its energy needs. The liver produces glycogen, and eventually sugar, from the fatty acids that are broken down from the fat depots. Remember, this is only a 2 hour period in a 24 hour day!

Thus, if the lipids circulating in the blood is meant to reflect the dangers or risks for heart disease, why take the blood for lipid determination in the fasting state, or only in that 2 hour period? Is it not more logical to assess the lipid status of a person in the 22 hours - or in the greater period of his day - of his existence? Two 'bombshell' studies appeared in the Journal of the American Medical Association in 2007 as evidence that the post-meal lipid status of a person is a stronger determinant of the risk for the heart disease, than the fasting lipid status.

1. The article by Bansal et al entitled, Fasting compared with non fasting triglycerides and risk of cardiovascular events in women states in summary, "The association between triglyceride (TG) levels and cardiovascular risk has been a debated issue. This prospective follow-up study including 26,509 initially healthy women demonstrate that non fasting TG levels predict cardiovascular events independently of other factors. This finding is in

contrast to fasting TG levels, which showed a weak independent relationship."

2. The other article by Nordestgaard et al entitled, Nonfasting triglycerides and risk of myocardial infarction, ischemic heart disease and death in men and women also states in summary, "This prospective cohort study appeared together with the paper of Bansal et al. Again, non fasting TG levels were associated with increased risk for myocardial infarction, ischemic heart disease and death, both among men and women, in a subgroup of 6677 subjects, nonfasting remnant lipoprotein cholesterol was shown to increase with rising nonfasting TG levels."

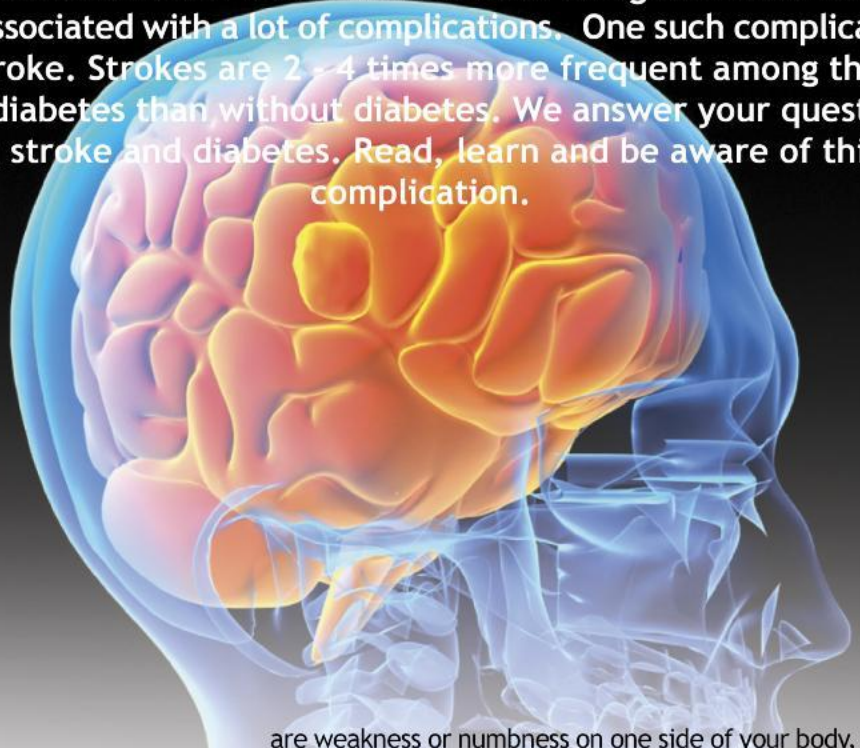
There have been other studies that followed over the subsequent years which showed the importance of nonfasting lipid determination in the assessment of heart disease in both diabetic and nondiabetic patients. Yet, our laboratories continue to insist that patients fast for 10-12 hours before blood withdrawal for the lipid profile. Should this situation - which works against the benefit of our patients - continue? 

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT DIABETES (BUT WAS AFRAID TO ASK!)

Roberto C. Mirasol, MD
St. Luke's Medical Center



Diabetes as we know is a chronic disease. Being a chronic disease, it is associated with a lot of complications. One such complication is Stroke. Strokes are 2 - 4 times more frequent among those with diabetes than without diabetes. We answer your questions on stroke and diabetes. Read, learn and be aware of this complication.



What is a stroke?

Your brain needs a steady supply of blood. A stroke happens when blood supply to part of your brain is blocked. The brain tissue supplied by the blocked artery is damaged and can cause paralysis (weakness of arms or legs), problems with thinking or speaking and sometimes emotional problems. A less common type of stroke but one more debilitating, is when a blood vessel ruptures. This is known as a hemorrhagic stroke. It has been found that diabetes increases the risk of a stroke.

Is there a way to prevent it from happening? I'm afraid I might get it soon. As in any complication from diabetes, blood sugars should be controlled. Blood pressure should also be checked and stabilized. Cholesterol levels should be less than 200 mg/dl and bad cholesterol should be less than 100 mg/dl. You will be asked to quit smoking if you smoke. If you are overweight, you will be asked to lose weight. If there is no contraindication your doctor will start you on low dose aspirin.

My father had a stroke and he has diabetes, am I at risk? Yes, you are at risk. Family history of a stroke, history of previous stroke, stress, high blood pressure, high cholesterol and smoking will increase your risk. If you can modify these risk factors, do so.

Are there warning signs that I am getting a stroke? The warning signs are not specific. Typical warning signs

are weakness or numbness on one side of your body, difficulty in speaking, walking, swallowing, understanding instructions, loss of balance or becoming uncoordinated, loss of vision, seeing double, severe, sudden, unexplainable headache, seizures or sometimes a brief loss of consciousness. Recognizing these is important because a stroke if diagnosed early could be reversed. Sometimes, these warning signs may occur and then disappear. This is called a transient ischemic attack. This means you are at risk of getting a stroke in the future.

How is it diagnosed? A doctor will usually do a neurological examination on you. A CT scan or an MRI will be requested. An ultrasound may also be done to check on your carotids.

How will I be treated? It is essential that diagnosis be made early. "Clot-busting" drugs are given within hours after a stroke to prevent further damage. Sometimes, surgical treatment might be necessary. To remove fats inside an artery and restore blood flow, a carotid endarterectomy maybe an option. Carotid stenting may also be done. A balloon is inserted and inflated opening up a narrowed artery. A stent is kept in place to keep it open. Rehabilitation therapies are also done to help you restore function. Prevention is important and the key. ○

We welcome your comments and suggestions. You may fax them at 5311278 or e mail me at mbmirasol@yahoo.com.

Is your diabetes medication heart friendly?

Florence Amorado-Santos, MD
Batangas Regional Hospital



Millions of people worldwide have diabetes and the figures continue to skyrocket at an alarming rate. Statistics show no preference as to age or sex. More important is the increase in risk factors such as obesity, widespread physical inactivity and increased calorie intake. Almost 90 percent of diabetes is the Type 2 form, which is characterized by two physiologic abnormalities--- insulin resistance at the site of insulin action and impaired insulin secretion from the pancreatic beta-cell. Chronic complications of diabetes include microvascular (small blood vessels) disease involving the kidneys, eyes and nerves and macrovascular (big vessels) disease involving the heart, brain and extremities.

People with T2 diabetes are at high risk of heart attack as non-diabetic people with a history of heart attack. The risk of death from cardiovascular death is 2-4 times higher among people with T2DM than among people without diabetes. Cardiovascular disease and stroke account for approximately two-thirds of deaths in people with diabetes.

Clinical treatment goals of diabetic patients include alleviating acute

symptoms of hyperglycemia and to avert its long-term complications. Hence, all agents undergo rigid testing by the Food and Drug Administration prior to its marketing. Since diabetes is a chronic and progressive condition, effective and safe agents for long term use would be of utmost clinical importance. With this premise, we have a wide range of choices at hand.

For many decades, the armamentarium for diabetes consists of insulin, sulfonylureas and metformin. In the mid-90's up to the present, several classes of drugs have been approved, and among which are available locally such as: alpha-glucosidase inhibitors, thiazolidinediones, glucagon-like peptide analogues, dipeptidyl peptidase IV inhibitor. With all these medications available, which of these would be considered the safest for the diabetic heart? Or are we in a double-blinded situation with these agents?

INSULIN

Insulin can come from an endogenous (within the body) or exogenous (coming from outside as injection) source. Endogenous supply of insulin usually gets depleted or inadequate leading to overt T2 diabetes, hence may require insulin administration to

prevent hyperglycemia. We have many insulin preparations in the market starting with the advent of human insulin introduced in 1922 as short, intermediate and long-acting type. This was followed by the pre-mixed insulin (combination of short and intermediate type) which afforded much greater ease and convenience in administration. Newer types emerged as insulin analogues comprising of rapid acting, premixed and basal preparations. The frequency of injection whether as single or multiple and routes of injections as subcutaneous, intramuscular, intravenous or as infusion, depends on the type and duration of action of the insulin.

Several concerns regarding the use of insulin were raised. In vitro studies (done not in living organisms but controlled environment) of insulin showed its pro-atherogenic (creates blood clots) effects including stimulation of cholesterol accumulation and stimulation of vascular smooth muscle cell proliferation. In vivo experimentation (uses whole living organism), high levels of insulin showed high levels of bad cholesterol, low good cholesterol and hypertension. Recent evidence suggests that therapeutic insulin (endogenous and exogenous) is

not atherogenic and that the insulin resistant state and not insulin itself, contributes to cardiovascular disease. Further, there is strong evidence that insulin may help counteract progression of cardiovascular disease through direct anti-inflammatory effects as well as control of blood sugar and blood fats. All these benefits were shown in large scale studies and in addition, insulin has no dose limitations (but needs titration to avoid hypoglycemia) and has minimal drug-drug interaction.

SULFONYLUREAS

The first group of drug introduced in the mid-1950's known as insulin secretagogues that stimulate insulin secretion. Most of the available sulfonylureas (SU) at present belong to the second generation class (gliclazide, glibenclamide, glipizide) and third generation class (glimeperide). This group of drugs are known to make patients off insulin for a long time. SU's are used as monotherapy or in combination with other anti-diabetes drugs.

SU's causes the closure of the ATP (adenosine triphosphate)-sensitive potassium channels which enables

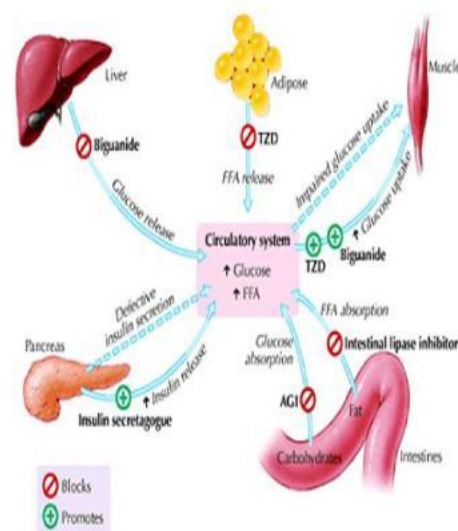
calcium ions to go inside the cells hence, releasing insulin from the pancreatic beta cells. These potassium channels are also present in cardiac muscles and believed to have a role in ischemic preconditioning. Ischemic preconditioning is a protective mechanism in which exposure of the cardiac muscles to reduced blood supply induces the heart to adapt and make the cells resistant to any further damage due to lack of blood supply. Thus, there is a potential for increasing the consequences of ischemia in the heart of a patient using several drugs in the sulfonylurea class.

A study done by the University Group Diabetes Program and a retrospective study on patients who had a heart attack showed that the mortality in patients with diabetes was secondary to the inhibition of the ischemic preconditioning. In one study using health care system data, further evidence showed increased cardiac events in patients using first-generation sulfonylureas compared to metformin. However, despite these findings, prospective large clinical trials need to be performed to evaluate cardiac events in patients using sulfonylureas. When available, data from such trials

**Sulfonylureas help
your pancreas make
extra insulin**



ADAM



will allow a more complete assessment of sulfonylurea treatment on myocardial preconditioning and provide a more clinically meaningful context in which to evaluate sulfonylurea treatment.

METFORMIN

Metformin had been with us for more than 5 decades and had also been widely used as first line agent for T2 diabetes mellitus. The algorithm of different associations had shown metformin together with lifestyle modification as the frontliner for the management of diabetes. Metformin works as an insulin sensitizer meaning it helps insulin to go to the muscles and adipose tissue for better glucose utilization. It also regulates and lessens the glucose load of the liver. It also has a modest cholesterol-lowering effect and has been shown to decrease several markers for cardiovascular disease risk, including remnant lipoprotein cholesterol-C, free fatty acids, triglycerides, and soluble vascular cell adhesion molecule. In one of the landmark studies for diabetes, the United Kingdom Prospective Diabetes Study (UKPDS), metformin was shown to reduce heart attack by 39 percent and stroke by 41 percent compared to intensive therapy with other agents such as sulfonylurea and insulin. Known risk for the use of metformin is lactic acidosis, main

Long term studies in a wide range of population have demonstrated that AGI's are safe and effective agents for diabetes. It is the only oral antidiabetic regimen that has been shown to reduce the risk of prespecified cardiovascular events irrespective of individual's age and weight. It was also shown to improve hypertension and other cardiovascular risk factors.

reason why this agent should not be started in patients >80 years old without knowing the renal function.

ALPHA-GLUCOSIDASE INHIBITOR (AGI)

Currently the only anti-diabetes drug which is approved for the treatment of prediabetes and T2 diabetes mellitus. There are two existing drugs in this class, acarbose and voglibose.

The mechanism of action of AGI's and its unique non-systemic pharmacology, avoids several common adverse events associated with other antidiabetes therapy and consequently has fewer contraindications. It is also poorly absorbed into the bloodstream and the risk of toxic reaction is very low and to date, no interactions have been reported with other commonly used drugs such as beta blockers, sulfonylureas, angiotensin-converting enzyme (ACE) inhibitors or warfarin therapy.

Alpha-glucosidase inhibitor has its important role in reducing postprandial

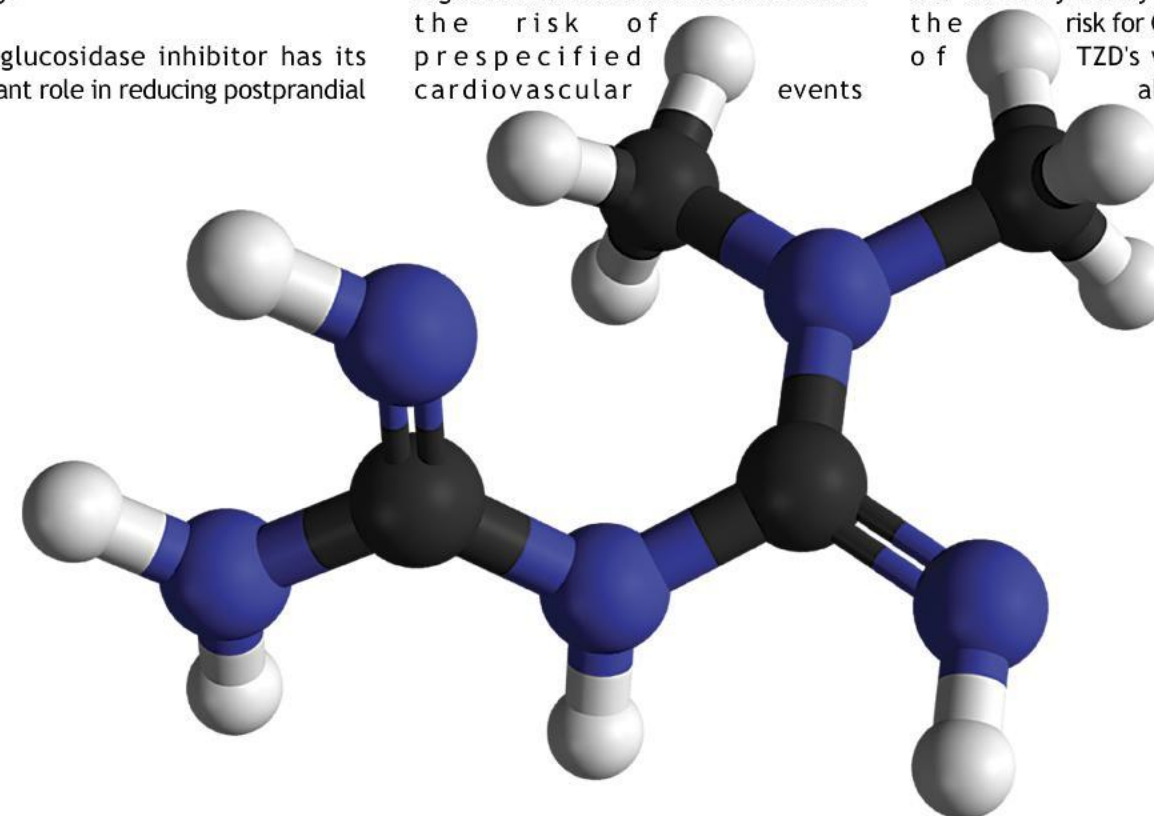
hyperglycemia which has a well-established link with cardiovascular disease. This benefit was shown among non-diabetic patients but having impaired glucose tolerance in the Study to Prevent Non-Insulin Dependent Diabetes Mellitus (STOP-NIDDM) wherein by using acarbose, there was a 36 percent decrease in newly-diagnosed T2 diabetes, 34 percent reduction in hypertension and 49 percent lowering of cardiovascular events with an astounding 91 percent reduction in heart attack! Known side effects of this agent are related to the gastrointestinal tract such as flatulence and diarrhea. A "start low, go slow" stepwise dosing regimen is therefore recommended.

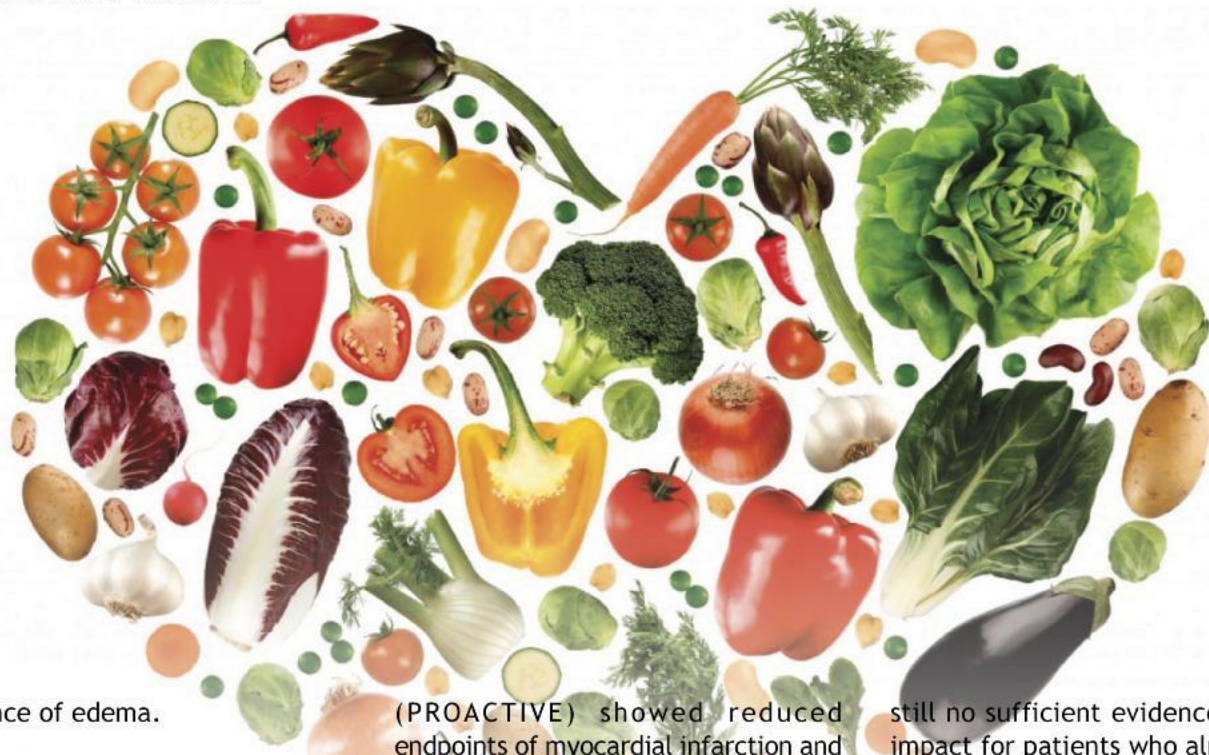
Long term studies in a wide range of population have demonstrated that AGI's are safe and effective agents for diabetes. It is the only oral antidiabetic regimen that has been shown to reduce the risk of prespecified cardiovascular events

irrespective of individual's age and weight. It was also shown to improve hypertension and other cardiovascular risk factors.

THIAZOLIDINEDIONE (TZD)

This agent (available as rosiglitazone and pioglitazone) is probably the most controversial in this issue. It warranted intense debate about its cardiovascular impact. Early evidence show that TZD's have various non-glycemic effects such as lowering levels of blood fats, improving blood pressure and decreasing inflammation in the blood vessels which could lead to its endothelial dysfunction (disruption of the lining of the blood vessels). However, edema was the prominent side effect of TZD's, commonly seen in patients with unrecognized congestive heart failure (CHF). So much more, patients with hypertension and coronary artery disease increase the risk for CHF. Combination of TZD's with insulin may also increase the





occurrence of edema.

The risk of heart attack and cardiovascular-related deaths stirred a whirlwind controversy over rosiglitazone. This was triggered by a meta-analysis done involving more than 40,000 patients (you can refer for a complete article about this controversy in our issue *Diabetes Watch* year XXIV, No.2 May-August 2007). In the midst of all the flurry publications and conflicting viewpoints, the United States Food and Drug Administration has not requested to halt any ongoing studies on rosiglitazone nor its withdrawal from the market. Instead, US FDA required the addition of boxed warning and revised warnings, precautions and contraindications in rosiglitazone's labeling to address the risk of heart failure. This issue was further elucidated with the release of the clinical trial on Rosiglitazone Evaluated for Cardiac Outcomes and Regulation of Glycaemia in Diabetes (RECORD) which was specifically designed to assess cardiovascular outcomes, demonstrated that rosiglitazone was not associated with an overall increase in cardiovascular hospitalization or death compared to those with metformin and sulfonylurea.

Likewise with pioglitazone, the results of PROspective PioglitAzone Clinical Trial In Macrovascular Events Study

(PROACTIVE) showed reduced endpoints of myocardial infarction and stroke suggesting a possible cardiovascular protective effect of this agent despite the increased risk of heart failure.

GLUCAGON-LIKE PEPTIDE ANALOGUES

One of the newly-approved agents by the FDA which underwent clinical trials to evaluate their potential benefits and risks. Locally marketed as exenatide, this agent had shown preliminary studies that revealed improvements in several cardiovascular risk factors (HDL, triglyceride and total cholesterol levels as well as blood pressure) compared with placebo in patients with T2 diabetes. Although further studies are still needed to fully evaluate their effects on cardiovascular disease.

DIPEPTIDYL-PEPTIDASE IV INHIBITOR (DPP-IV inhibitor)

These drugs known as sitagliptin and vildagliptin work by enhancing the incretin hormones from the gut to regulate insulin secretion following food intake and glucagon secretion when blood sugar is low. Some experts are suggesting that DPP-IV inhibitors may be the drug of choice for patients where hypoglycemia and cardiovascular health are the issues. But there are

still no sufficient evidence on their impact for patients who already have established heart disease nor if they offer cardioprotection more than the older drug classes. At this point, there are still no signals regarding to cause concern regarding cardiovascular safety.

WHICH ONE DO WE CHOOSE NOW?

Cardiovascular and other long-term risks of many classes of antidiabetic agents, not just new ones, remain poorly characterized, making it more difficult for clinicians to make a qualified choice. Diabetes is a cardiovascular disease equivalent and most patients would have co-existence of these two conditions. It would be a common ideal for physicians to be able to prescribe an agent which is the most heart-neutral with an extra treat of heart-protection if possible. Again, the dictum would be to individualize. Look at your patient's profile, risk factors and existing complications before prescribing. Our diabetic patients are mostly on multiple drug regimen and this must be considered also in terms of possible drug interaction or potentiation.

We still hope that more evidence will be shown to really establish the safety of insulin and all oral antidiabetes agents to our diabetic heart. ○

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¹Mertes G Diabetes Research and Clinical Practice 52 (2001) 193-204; ²Chasson J-L et al. JAMA 290 (2003) 486-494; ³Hanefeld M et al. Eur Heart Journal 25 (2004) 10-16; ⁴Chasson J-L et al. Lancet 359 (2002) 2072-77; ⁵Menelly GS et al. Diabetes Care 23 (2000) 1162; ⁶Yang WY et al. Chin J Endocrinol Metabol 17 (2001) 131-136

Glucobay®. Acarbose: tablets 50, 100mg. **Packs:** Country specific. **Indications:** Diabetes mellitus in combination with diet. **Dosage:** According to individual response. Start with 50 mg od increased to 100 mg tid. Dosage increase interval 1-2 or more weeks. If afternoon blood glucose levels are low, skip midday dose. Swallow tablets immediately before meals or chew at meal beginning. **Contraindications:** hypersensitivity to acarbose, pregnancy, lactation. Children and adolescents, who are less than 18 years of age. **Precautions:** Caution to patients with chronic digestion, absorption disorders and conditions aggravated by increased intestinal gas formation e.g. large hernias, constrictions and ulcers of large intestines. Foodstuffs containing sugar may lead to intestinal discomfort and diarrhoea. In case of hypoglycemia use dextrose (not sucrose). **Interactions:** Dose of antidiabetic therapy may be reduced on addition to Glucobay®. Antacids, cholestyramine, intestinal absorbents and digestive enzymes may reduce its effect (avoid simultaneous intake). **Side effects:** They are dose and substrate-related and generally subside with continued treatment. They can be minimized by adherence to diabetic diet and avoidance of sucrose-containing foodstuffs. Feeling of fullness, abdominal distension, flatulence, soft stools and diarrhoea. Individual cases of asymptomatic transaminase increase disappearing completely after discontinuation of therapy. **Full prescribing information available by:** Bayer HealthCare AG, PH-GSM Regional Marketing Asia-Pacific, D051368 Leverkusen, Germany.

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Has the Time Come for Personal Health Records?

Iris Thiele Isip Tan, MD
Philippine General Hospital

In the aftermath of Ondoy, most of the victims were huddled in evacuation centers needing medical care. I can only imagine the nightmare of having to provide care in a scenario where even the most basic personal health information such

as medications and dosages may be missing. Such was also the situation with Hurricane Katrina where paper health records were destroyed in the flood. Unfortunately, it also happens commonly in the clinic practice. In our archipelago of 7,107 islands where a

patient may be seeing a doctor in Manila and in Batanes for example, some information may be lost when records are kept only with their doctors. Should patients then keep a Personal Health Record (PHR)?



Some patients do keep printed laboratory results and hospitalization records but these are usually incomplete. According to Wikipedia (1), the Personal Health Record may include information about allergies and adverse drug reactions, medications (including dose and how often taken) including over-the-counter medications and herbal remedies, illnesses and hospitalizations, surgeries and other procedures, vaccinations, laboratory test results and family history.

There are several PHR platforms: personal computers, the internet and portable devices. Health information typed into a word-processing software may be the most basic form of PHR. More sophisticated PHR software may offer data encryption (to ensure privacy) and allow copying into a storage device such as a CD-ROM or a USB flash drive. Wouldn't it be nice if a patient were to consult in my clinic bringing a CD-ROM filled with all his medical records? Think of the time saved trying to retrieve the

histopathology report and operative records from a hospital in a far-flung province for a thyroidectomy done in 1998.

Internet-based PHRs allow access and editing through a web browser. Imagine a scenario (2), where a patient consults at the emergency room for severe chest pain and is unable to remember all her medications. She can give her physician the password to her online personal health record. The physician will then have access to her medication list and her medication allergies. A potential adverse drug event would have been avoided if the physician notes that on the patient's PHR that she had an aspirin allergy. Google Health and Microsoft Health Vault are two examples of an internet-based PHR.

There are also mobile smartphone-based PHRs where health history such as medications, immunizations and allergies may be stored in the application. Health n Me is an iPhone

application that stores health records for all family members. It includes the patient's blood type, physician information, emergency contacts, insurance details in the general information alone. It has a medical summary field and allows adding notes, appointments and attachments.

PHRs have the capacity to empower patients and increase patient safety but privacy is a major concern. So do check out the privacy policy for any PHR software you may decide to get. 

References:

1. http://en.wikipedia.org/w/index.php?title=Personal_health_record&oldid=358659816

2. <http://www.medscape.com/viewarticle/536089>

IQ&A

{Informatics Q & A}

The diabetics guide to good health on the web

Cecilia A. Jimeno, MD
Manila Adventist Medical Center

Question: I am D.M., a 29 year old team leader in a call center at Pasay City and I am very scared that I might develop diabetes. Both of my parents are diabetics and because of my job, I have become overweight. I read in the internet about a tool called a diabetes risk calculator that could help predict if I have the potential to develop diabetes. What is this tool and how can I access it?

Answer: Great question D.M.! There are actually a lot of diabetes risk calculators in the web (googling diabetes risk calculators would yield 626,000 articles) that you can download or answer directly. There are 2 main types- one kind is for those who still don't have diabetes but would like to find out if they are at risk of developing it, and the other type is for those who already have diabetes and would like to know if they are at risk of developing complications.

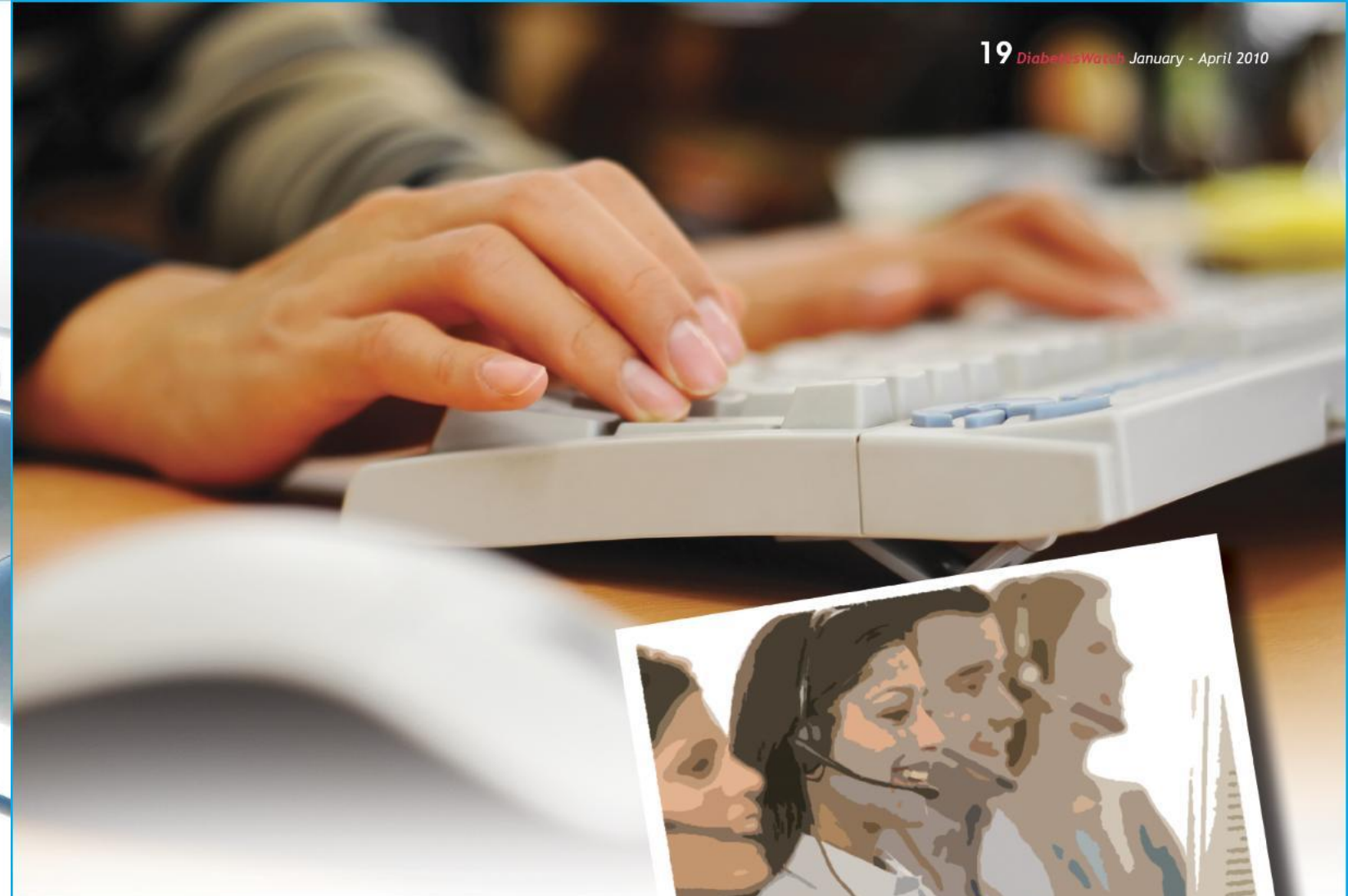
One of the best, if not the best and very user friendly, is the diabetes risk calculator of the American Diabetes Association. As a non-diabetic wanting to know your risk of future development of diabetes, you can go to: <http://www.diabetes.org/diabetes-basics/prevention/diabetes-risk-test>. It will ask for your email and zip code, and will then direct you to a very simple quiz, much like all those compatibility tests that we sometimes

read in women's magazines. You have to know your height and weight though before accomplishing it. Then, at the end of the quiz the tool will tell you what your risk factors for diabetes are and ask you if you want to share the info with others, or if you want to learn more. The "learn more" option gives you tips on prevention, that is diet and exercise instructions. This risk calculator though is tailored for Americans and tends to underestimate your risk because they tend to have higher weights per height (BMI) than Asians; you may have to add a few percentage points to the actual result given to better estimate your risk.

For those who are already diabetic (or think they are diabetic), or have other risks like hypertension or high cholesterol, the ADA has another risk

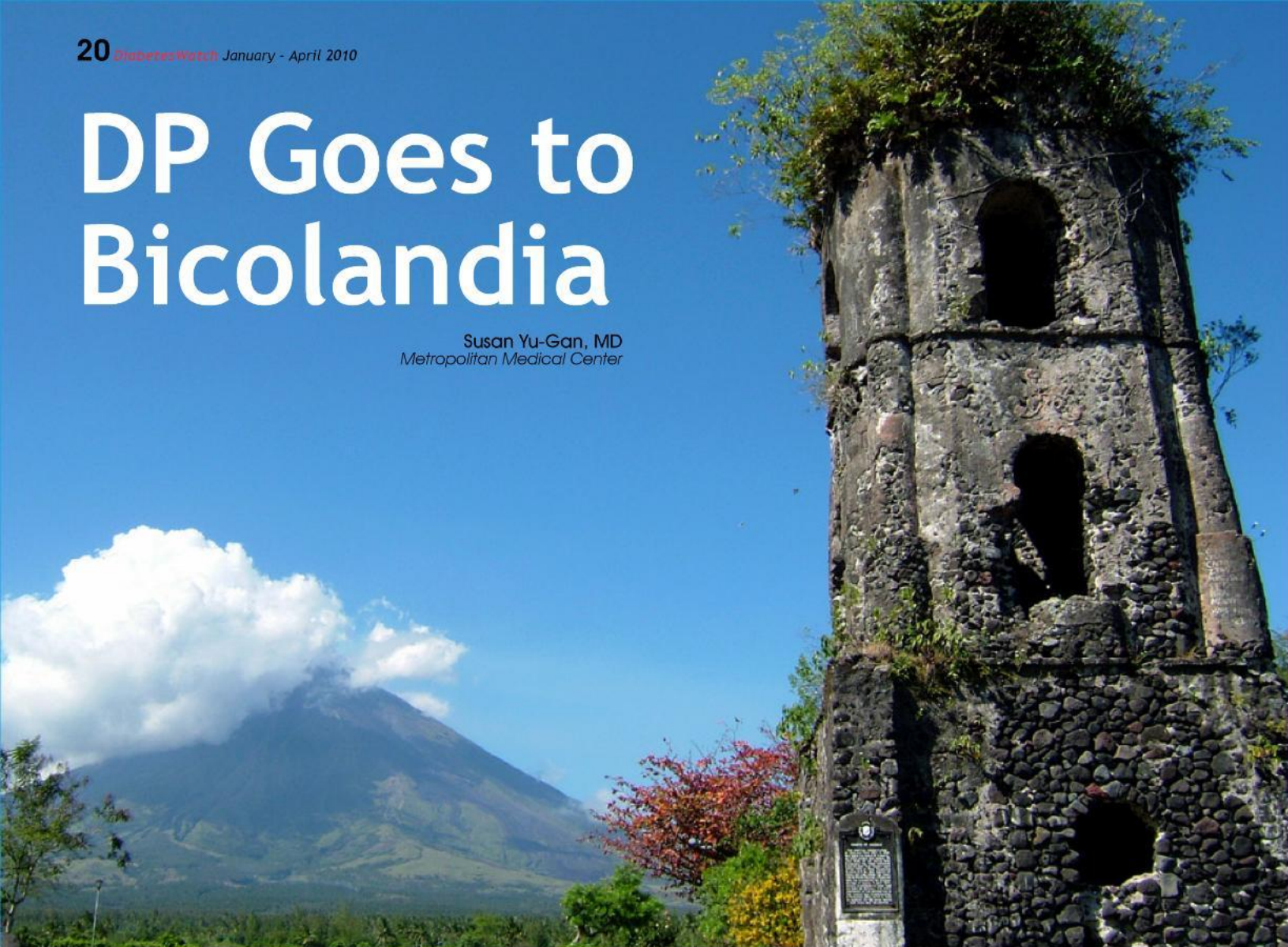
calculator called the Diabetes PHD. No, it's not Doctor of Philosophy, it's Personal Health Decisions tool. It is described as a powerful risk assessment tool that can be used to explore the effects of a wide variety of health care interventions, including losing weight, stopping smoking, and taking certain medications. Go to this URL <http://www.diabetes.org/living-with-diabetes/complications/diabetes-phd/> to access this tool. It's a good tool with graphs and figures at the end of the quiz that elaborate your risk factors for both diabetes and its complications.

Hope you'll have fun and learn from these quizzes! Want to know about a quiz that tells you how you can live up to 100 years? Read the answer on the next IQ&A! ○



DP Goes to Bicolandia

Susan Yu-Gan, MD
Metropolitan Medical Center



Education is one of the tools we can use to improve patient care for people with diabetes. With this in mind, Diabetes Philippines decided to set up the Diabetes Forum for nurses and dietitians. The first ever Diabetes Forum was held in Davao last year with more than 200 nurses and dietitians attending the event. Previously, our allied health professionals had to attend the workshops together with the physicians, where many of the topics being discussed do not really meet their need. After the Davao forum where we received a most favourable feedback, the board decided to continue holding these fora as a back to back activity with our usual workshops. So, on February 22, 2010 we trooped to Daet, Camarines Norte. After a gruelling 7 hours of travel, we arrived at the Golden Palace

Restaurant to set up the place for the next day's activity. We had a total of 78 attendees with some participants coming from as far as Masbate. The topics ranged from the basics about diabetes like to diagnose and classify the disease, treatment including nutritional guide and lifestyle modification with emphasis on exercise, the need for blood glucose monitoring and the proper way to do it with live demonstration and actual practice among the participants themselves. We also had topics on pharmacological management of diabetes with focus on insulin therapy: the different types of insulin, the proper technique of injecting insulin and demonstration of the use of insulin pens.

The next day (February 24, 2010), the same forum was held in Villa Caceres,

Naga, Camarines Sur where 94 participants benefited from the activity. Simultaneously, a lay forum was also conducted at the Our Lady of Fatima Church in Tabuco, Naga City with free blood sugar screening prior to the lay forum. We were able to serve around 60 patients that morning. After a tiring day, because most of the faculty had to shuttle back and forth from Villa Caceres to the Church to cater to both the medical and the lay fora, we had to move on to the next location which was Legazpi, Albay.

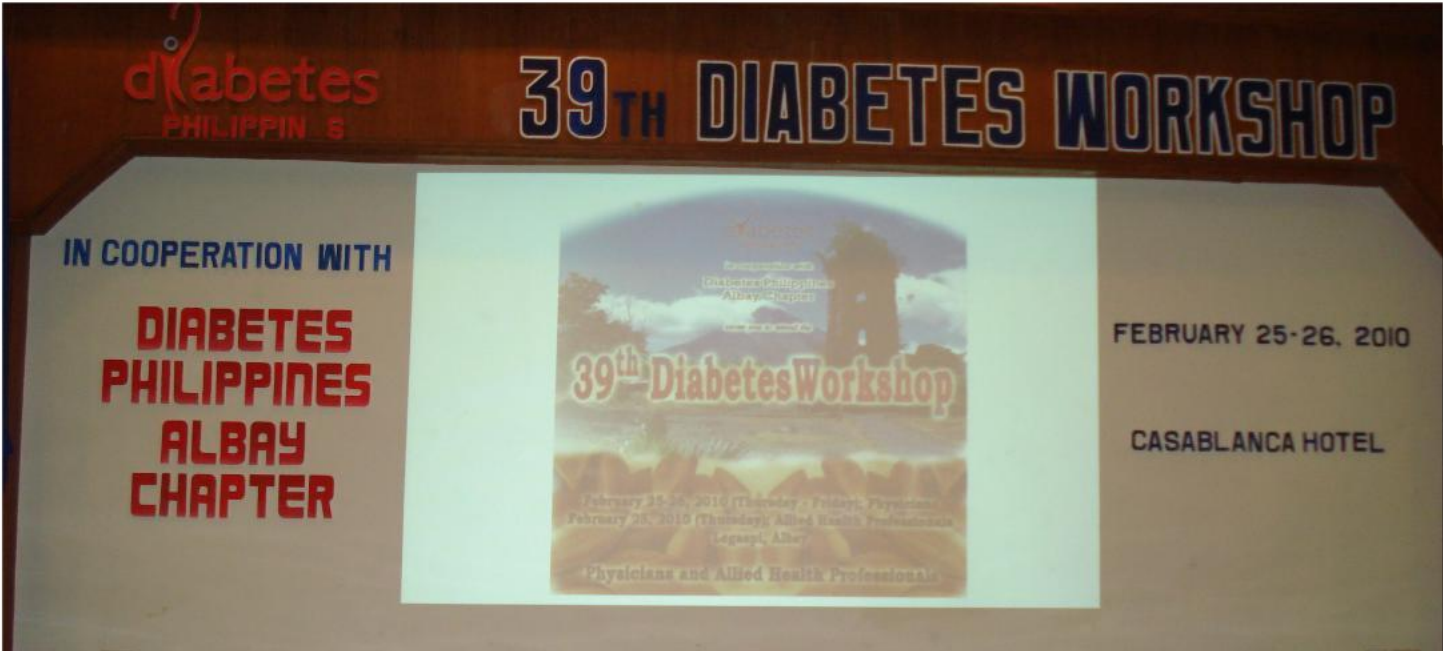
In Legazpi, our format changed because here we conducted our 39th Diabetes Workshop. During the first day, topics were more basic for the benefit of the nurses and dietitians attending the workshop. The second day topics were exclusively for the physicians and these included topics on Pathophysiology of

diabetes complications and management. The workshop was held at the Casablanca Hotel in Legazpi City, Albay with a total of 158 attendees. All in all, we may say that it has been a productive endeavour. Of course, all these would not have been possible without the help of our friends from the pharmaceutical

industry who provided for the strips and blood glucose testing meters used during the live demonstration and during the lay forum. We would also like to acknowledge Novo Nordisk for providing the pens used during the diabetes forum for the nurses and dietitians. As usual, we would like to thank our secretarial staff for their

exemplary job in preparing all these activities. Finally, we take our hats off to Dr. Paul Palencia, Dr. Ramon Caceres and Dr. Lina Asido who tirelessly coordinated the 3 activities. It was their efforts that led to the fruition of the workshop and the diabetes fora. ○







KITCHEN CORNER

OH, YES!... A FLAVORFUL LOW SALT, LOW FAT MEAL!

Ma. Imelda Q. Cardino, RND
Makati Medical Center

If preparing a low salt, low fat meal is a challenge... what about eating it.... specially if one loves delicious, appetizing, mouth-watering food (who doesn't anyway?). But... in view of the increasing prevalence of hypertension, a low salt, low fat meal even for non-hypertensive individuals is suggested. Actually, the recommended healthy eating plan for everyone is low not only in salt, saturated fat, trans fat and cholesterol but also on added sugars.... meals that are definitely so appealing.

It is a well-known fact that weight loss lowers blood pressure in the hypertensive individual even without the attainment of recommended body weight...and that less salt and fat in the diet as part of lifestyle intervention significantly improves the health status. The amount of daily salt intake considered "healthy" is approximately half of the normal salt content of the Filipino diet. To limit one's salt intake within the recommended amount daily, one has to get used to "bland" foods. Salty condiments on the table such as "patis", "bagoong", "toyomansi" are things of the past. Fresh sources of meat and fish are preferred over processed and dried sources. Remember, salt substitutes are NOT necessary.

These additional tips are helpful:

- ✓ Use pepper, other spices and herbs to bring out the food flavour.
- ✓ Flavored vinegars, fresh lemon or

"calamansi" may be used on meat and vegetables.

✓ If you need to take something between meals, eat "healthier" choices such as broiled or boiled corn-on-the cob/root crops rather than instant noodles or salty snack foods. Greaseless nuts are also good snack items.

✓ Limit your visits to fast food restaurants. Their menus are usually high in both salt and fat.

✓ Halve the amount of salt in recipes. As mentioned above, use spices and herbs to bring out the food flavour. For example, your favourite "adobo" could be prepared with less soy sauce and a little more vinegar.

✓ Select high fiber fruits such as apple, guava, kiwi, orange, pear, prune and others. Liberally serve green, leafy vegetables.

✓ Choose whole grain cereals over refined sources.

✓ Serve vegetable proteins like soya and legumes three times weekly.

✓ Choose dairy products low in fat such as skim milk and low fat yogurt.

✓ If possible, cook from scratch. Many convenience condiment packs and



ready mixes are high in salt. Likewise, ready-to-cook items are typically high in salt.

Simple, delicious recipes that you can try are provided.

By increasing the number of servings, the calorie count and nutrients per portion decreases. For example, if cashew chicken is divided into 8 servings (instead of 4), the calorie per portion becomes 137 calories, protein is 9 gms, fat is 3.5 gms, carbohydrate is 17 gms.

A low salt, low fat diet is good for everyone. With a little creativity and determination, such meals will be interesting, appetizing, definitely flavourful...and of course.... enjoyable! **HAPPY HEALTHY EATING!**

THAI PASTA SALAD WITH PEANUT SAUCE



- ½ cup liquid skim milk
- 4 ½ teaspoons creamy peanut butter
- 4 ½ teaspoons finely chopped red onions
- 1 teaspoon fresh lemon juice
- ¾ teaspoon brown sugar
- ½ teaspoon reduced sodium soy sauce
- 1/8 teaspoon crushed red pepper
- ½ teaspoon finely chopped fresh ginger
- 1 cup hot, cooked whole wheat spaghetti
- 2 teaspoons finely chopped green onion (or other vegetables of choice)

Combine milk, peanut butter, red onion, lemon juice, sugar, soy sauce, and red onions in a medium saucepan. Bring to a boil over high heat, stirring constantly. Boil 2 minutes, continuously stirring. Reduce heat to medium-low. Add ginger and blend well. Add spaghetti; toss to coat.

Top each serving evenly with green onion. Serve immediately.

MAKES 2 SERVINGS.

EACH SERVING:

Calories --- 187
 Total fat --- 6 gms
 Sodium --- 85 mgs
 Cholesterol --- 38 mgs
 Carbohydrate --- 27 gms
 Dietary fiber --- 3 gms
 Protein --- 9 gm

REFERENCE: *Diabetic Recipes by Publications International Ltd., 1995*

TENNESSEE CHICKEN SALAD

Makes 4 servings:

- 1 whole chicken (1 to 1½ kilos)
- 1 sm. onion, quartered
- 1 large carrot, sliced
- 1 bay leaf

- 1/3 cup light or reduced calorie mayonnaise
- 1/3 cup sour cream
- ¼ cup liquid low fat milk
- 2 tbsp. minced green onion
- 1 tbsp. white wine vinegar
- 1 tsp. dried tarragon leaves
- 1/2 tsp. salt
- 2 cups seedless green or red grapes, halved
- 1 cup sliced celery
- Lettuce leaves



- Remove neck, skin and giblets from chicken and set aside. Rinse the chicken and cut into serving size pieces. In a 5 quart Dutch oven, place chicken, onion, carrot, bay leaf, and enough water to cover. Heat to boiling over high heat. Reduce heat to low; cover and simmer chicken for 30 minutes or just until fork tender. Strain the broth and refrigerate when cool for use in some other recipe. Put the chicken pieces in a bowl to cool enough to handle.
- Remove bones from the chicken pieces. Cut chicken meat into bite size pieces then set aside. In a large bowl, combine mayonnaise, sour cream, skim milk, green onion, vinegar, tarragon, and salt and mix well. Add chicken meat, grapes, and celery; toss gently until well combined. Cover and refrigerate until well chilled.
- To serve, line the serving plate with lettuce leaves. Spoon salad over leaves.

CASHEW CHICKEN

- 1/2 kilo boneless chicken breasts cut into 1 x ½ inch pieces
- 1 tablespoon cornstarch
- 1 tablespoon dry white wine
- 1 tablespoon reduced sodium soy sauce
- ½ teaspoon garlic powder
- 1 teaspoon vegetable oil
- 6 green onions cut into 1-inch pieces
- 2 cups sliced mushrooms
- 1 red or green bell pepper, thinly sliced
- 1 can (6 ounces) sliced water chestnuts, rinsed and drained
- 2 tablespoons hoisin sauce (OPTIONAL)
- 2 cups hot, cooked unpolished rice
- ¼ cup roasted cashew



- Place chicken in a large resealable plastic food storage bag. Combine cornstarch, wine, soy sauce and garlic powder in a small bowl; whisk until well-blended. Pour over chicken pieces, seal bag, and toss to coat. Marinate in refrigerator for 1 hour. Drain chicken; discard marinade.
- Heat oil in wok or large non-stick skillet until hot. Add onions; stir-fry 1 minute. Add chicken; stir-fry 2 minutes or until browned. Add mushrooms, bell pepper and water chestnuts; stir-fry 3 minutes or until vegetables are crisp-tender and chicken is cooked. Stir in hoisin sauce; cook and stir 1 minute or until heated through.
- Serve chicken and vegetables over rice. Top each serving evenly with cashews. Serve immediately.

MAKES 4 SERVINGS.

EACH SERVING:

Calories --- 274
 Total fat --- 7 gms
 Sodium --- 85 mgs

Cholesterol --- 36 mgs
 Carbohydrate --- 34 gms
 Dietary fiber --- 3 gms
 Protein --- 18 gm

REFERENCE: *Diabetic Recipes by Publications International Ltd., 1995*

A GLIMPSE OF PSEM

Pepito Dela Peña, MD
East Avenue Medical Center



Last March 17, 2010, the third congress on Pre diabetes and metabolic syndrome was held at Edsa Shangri-La Hotel with the theme: Pre diabetes and Insulin Resistance in Special Populations. A total of 408 participants joined the event.

A day after, the 2010 PSEM Annual Convention commenced, headed by Dr. Tish Gatbonton. The 2- day affair with the theme "Translating Guideline to Practice: Individualized Care in Endocrinology (ICE)" was graced by two foreign speakers in the persons of Dr. Jack Leahy and Dr. Karel Pacak of the U.S.A. The most glaring part of the annual convention was the fellowship night entitled PSEM's Got Talent, which featured four training institutions pitting talents against one another through dancing. UP-PGH presented Filipiniana-style whereas the other three performed modern dances. Garnering top spot was St. Luke's Medical Center.

As part of the advocacy campaign, WALK FOR A CAUSE was launched last March 19, 2010. This activity was part of the "FIT FOR YOU" project of PSEM. Also noteworthy was the passing of the torch by Dr. Tish Gatbonton to Dr. Leilani Mercado- Asis as the new president of PSEM. Added to the prestigious Board of Directors was Dr. Iris Thiele Isip-Tan.



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Navigating the Net: Online Resources for Peripheral Artery Disease

Cecille R. dela Paz, MD
East Avenue Medical Center

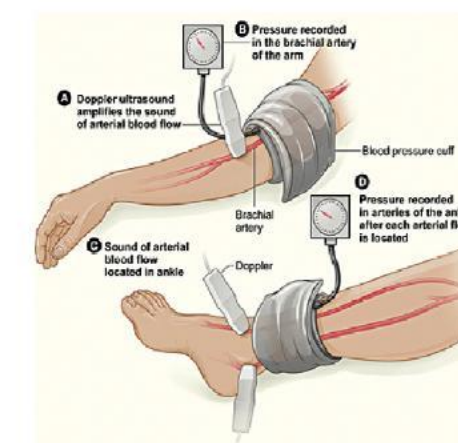


Diabetes is a disease that increases your risk for cardiovascular complications. Elevated blood sugars over time can promote increased fatty deposits along the walls of arteries. These deposits can affect blood flow through the arteries causing clogging and hardening of the blood vessels. This process is called atherosclerosis. When atherosclerosis affects the blood vessels of the heart and brain, this leads to increased heart attacks and strokes. But not many realize that the same disease process can occur in pelvic and leg arteries as well and this is termed Peripheral Artery Disease or PAD.

Many people with diabetes and PAD may be asymptomatic. But the most common symptom of PAD is leg pain that usually occurs during exercise, walking, or climbing stairs which disappear after rest. Some people may experience a marked decrease in temperature of the lower leg compared to the other leg or even the rest of the body. Still another symptom are foot or leg ulcers that heal slowly, and in extreme cases develop gangrene.

The fact that you have diabetes already puts you at risk for developing PAD. But the most important preventable risk factor for PAD is smoking. Smokers have a four times the risk for having PAD compared to nonsmokers. Others include hypertension, elevated cholesterol levels, physical inactivity, obesity, age over 50 years, previous history of heart attack or stroke, and a family history of heart disease.

Diagnosing PAD may be made by doing the Ankle Brachial Index or ABI. This test measures and compares the blood pressure in your upper and lower extremities. If the blood pressure is lower in your legs than in your arms, you may have PAD. Other important diagnostic examinations include Arterial Doppler ultrasound imaging, CT Scan or MRI of the arteries and Angiography.



Treatment of PAD involves a multidisciplinary approach. All modifiable risk factors must be addressed and this includes smoking cessation, lowering of blood glucose, blood pressure and cholesterol, increasing physical activity and weight loss. Some medications may be helpful, including antiplatelet drugs like aspirin or clopidogrel, or drugs that increase

exercise tolerance like pentoxifylline or cilostazole. In extreme cases, surgical intervention like angioplasty or peripheral arterial bypass may be warranted.

Knowing more about PAD is certainly worth your while and there are various online resources that could help you learn more about this disease:

1. The American Heart Association website (www.heart.org) To access information on PAD, point your browser to "Diseases and Conditions" found on the left side of the screen and scroll down the topics and click on Peripheral Artery Disease. Interesting highlights in the website include illustrations of atherosclerosis and peripheral artery disease, a video presentation of the ABI and other diagnostic tests. In this website, you can click on links to help you manage your risk factors.

2. The American Diabetes Association website (www.diabetes.org) To learn more about cardiovascular complications of diabetes, click on the topic "Living with Diabetes" at the top of the web page then click on complications then peripheral artery disease. The website is easy to navigate and you will find a plethora of topics that you can browse through.

3. The National Institutes of Health website (www.nih.gov) To access information on PAD, click on A to Z Health Topics found on the bottom left of the web page, click on Diabetes and a long list of articles appears. Scroll down and click on Diabetes, Heart Disease and Stroke for a comprehensive view of the different cardiovascular complications of diabetes. ○

diabetes ON THE MOVE philippines

Heart Month 2010

(February 7, 2010 - Quezon Circle, Quezon City)

- Aerobic Exercises which are good for the heart as well as topics on how to take care of your heart are some of the highlight of activities conducted by the Philippine Heart Association as they celebrate Heart Month 2010 with the theme "Ang Mahusay na Manggagawa, sa Kalusugan di Pabaya" held last February 7, 2010 at the Quezon Circle, Quezon City. Blood sugar screening, blood pressure determination, ECG test and medical consultation all for free offered to the attendees of the said event. Diabetes Philippines participated by giving away advocacy flyers.



PLAS-PSH Lay Forum

(February 7, 2010 - Sapphire A & B Crowne Plaza Galleria Manila)

As the kick-off activity for the 15th Joint Annual Convention of the Philippine Society of Hypertension (PSH) and the Philippine Lipid and Atherosclerosis Society (PLAS), a lay forum was held last February 7, 2010 at Sapphire A & B of Crowne Plaza Galleria, Manila, which discusses topics on life-threatening conditions that complicate hypertension, diabetes, cholesterol problems or dyslipidemia and heart diseases. This activity is also a part of series of public education campaigns conducted by PSH and PLAS to pursue programs to help control the upsurge of cardiovascular disease.

R3i Booth on 15th PLAS-PSH Joint Annual Convention

Crowne Plaza Galleria Manila



- The R3i Booth during the Philippine Society of Hypertension and Philippine Lipid and Atherosclerosis Society Joint 15th Annual Convention held last February 10-12, 2010 at the Crowne Plaza Galleria, Manila.

- The Residual Risk Reduction at a Glance.

- Despite efficacy of current standards of care, including achievement of LDL-C goals, patients remain exposed to a high residual risk of major MACROvascular events and MICROvascular complications
- Atherogenic dyslipidemia (elevated TG and low

HDL-C) is an important factor of Macro and Microvascular residual risk

- Statin therapy does not adequately address vascular risk associated with elevated TG and low HDL-C levels
- R3i worldwide academic, multidisciplinary, non-profit, educational initiative

Its Mission: Reduce the residual vascular risk ultimately improve and extend the life of patients

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Vascular Strategies



39th DiabetesWorkshop and 4th Diabetes Forum

(February 25-26, 2010 - Casablanca Hotel, Legaspi City)

- Once again, Diabetes Philippines Albay Chapter hosted the 11/2 days intensive diabetes course for Physicians and Allied Health Professionals (nurses and dietitians) in Legaspi City. This event was ably coordinated by Dr. Lina delos Reyes-Asido (past president, Diabetes Philippines Albay Chapter), Dr. Cyril Chua (President, Diabetes Philippines Albay Chapter) and Dr. Susan Yu-Gan (Coordinator, 39th DiabetesWorkshop). An overwhelming attendance of 175 health care professionals (Physicians, Nurses and Dietitians) filled-up the Hall of Casablanca Convention



Hotel. Everybody enjoyed the interactive lectures of the speakers headed by Dr. Tommy Ty-Willing (President, Diabetes Philippines National).

Induction of Diabetes Philippines Pangasinan Chapter Officers

(March 23, 2010, Star Plaza Hotel, Dagupan, Pangasinan)

- New sets of officers of Diabetes Philippines Pangasinan Chapter have been inducted last March 23, 2010 at the Star Plaza Hotel, Dagupan, Pangasinan. Dr. Tommy S. Ty Willing, President of Diabetes Philippines National conducted the oath taking ceremony.



Diabetes Philippines Pangasinan Chapter Officers

Dr. Jubilla B. De Guzman - President
 Dr. Elmer R. Tumacder - Vice-President
 Dr. Lalaine L. Duque - Secretary
 Dr. Edith S. Bermudez - Treasurer
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Immediate Past President - Dr. Isabelita Siapno



Novartis Press Conference

(March 18, 2010 at Crowne Plaza Galleria Manila)



- Dr. Tommy Ty-Willing, President of Diabetes Philippines and Dr. Wolfgang Schmidt, chairman and professor of Internal Medicine at the Ruhr-University of Bochum School of Medicine in Germany have been invited to give their informative lecture on the global burden of diabetes as well as share their insights on the novel drug that will address the many concerns of patients about blood sugar management during the Novartis



Press Conference with the theme "A beta way to control diabetes" held last March 18, 2010 at Crowne Plaza Galleria Manila. Also present from Novartis Healthcare Philippines are Mr. Jonald Absin, Novartis Healthcare Philippines senior product manager; Ms. Sally Fairbrother, Novartis Healthcare Philippines cardiovascular and metabolism marketing head; and Dr. Francis Domingo, Novartis Healthcare Philippines chief scientific officer.

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1. Rendell et al. Skin Blood Flow and Current Perception in Pentoxifylline Treated Diabetic Neuropathy. *Angiology* Volume 43(10):843-851, pp. 1992
 2. Belcaro G. et al. Intermittent claudication in diabetes: treatment with pentoxifylline - a 10 month, controlled, randomized trial. *Angiology* 2002 Jan-Feb.
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ALTERNATIVE MEDICINES FOR DIABETES IN 2010: ARE THEY ALL JUST HEARSAY?

Nemencio A. Nicodemus Jr., MD
Manila Doctors Hospital

A lot of advertisements in trimedia are exposing patients to the possible health benefits of herbal medications in the control of diabetes. In the medical field, these agents are collectively known as complementary and alternative medicine (CAM). In the Philippines where medications do not come very cheap, the constant search for cheaper forms of medications lure patients to try herbal preparations which can be bought in the neighbourhood market or even in their backyards.

Further confusion is created by endorsements from well-known celebrities, some physicians and government health agencies. But unlike ethical drugs and medications, which require stringent criteria before their entry in to the market, complementary and alternative medications are just registered as supplements and, therefore, are being sold without the

need to show proof of efficacy.

In order to recommend such forms of therapy, we must apply the same means of assessing effectiveness as are utilized in drug manufacturing. These now become the hard evidences that serve as the bases of our recommendations.

But what credible evidences are available with the use of some of these CAM? Here we discuss evidences with the use of *cinnamon*, *green tea*, *fibre*, *momordica* and *chromium*.

Cinnamon. True cinnamon is a small evergreen tree, the

bark of which is a common culinary spice. Cinnamon has been used for thousands of years to treat diabetes



Cinnamomum cassia



and other conditions. The aqueous extract appears to activate the insulin receptor by multiple mechanisms, and also increases glycogen synthase activity. There are three randomized controlled trials utilizing cinnamon. In one, patients with poorly controlled diabetes were given 1, 3, or 6 g of *C cassia* for 40 days. Fasting blood glucose levels decreased by 18% to 29%, but HbA_{1c} levels were not investigated. In a second trial, well-controlled diabetes patients received 3 g of *C cassia* daily for 4 months. More moderate reductions in FBG levels (average 10.3% vs 3.4% in placebo group, $P = .046$) were noted, but HbA_{1c} levels were unchanged. In the third trial, patients with diabetes with an average HbA_{1c} measurement of 7.1% were treated with 1 g daily for 3 months. No change was reported in FBG or HbA_{1c} levels. Overall, there is moderate evidence that cinnamon lowers blood glucose levels. Its effect on HbA_{1c} appears negligible, but long-term studies are required to properly evaluate this outcome.

Chromium. Chromium is an essential

trace element with many sites of action, including carbohydrate and lipid metabolism. Trivalent chromium is a constituent of a complex known as the "glucose tolerance factor," and chromium deficiency causes reversible insulin resistance and diabetes. A meta-analysis evaluated the effects of various chromium formulations at doses of 200 to 1000 µg daily for 2 to 26 weeks. However, more than half the studies included were of poor quality and used different formulations and doses of chromium in populations that might have had very different amounts of

chromium in their diet. The meta-analysis included 2 RCTs that evaluated combination therapy using 600 µg chromium picolinate and 2 mg biotin. Biotin is a B vitamin that has enhanced chromium absorption in animal studies. One 3-month trial in patients with diabetes (mean baseline HbA_{1c} level 8.6%) noted an HbA_{1c} level reduction of 0.54% ($P = .03$) overall, and an impressive 1.76% reduction among patients with baseline HbA_{1c} levels above 10% ($P = .0001$). In the second trial, patients were treated for 1 month and no reduction in FBG was seen. Thus, a definitive clinical trial is urgently needed. Biotin might enhance its effects, but this combination requires further study.

Fiber. Dietary fiber is recognized as an important part of a healthy diet. Soluble and insoluble fibers have positive effects on cardiovascular risk factors, intestinal disorders and certain cancers. Cohort studies suggest that consumption of cereal fiber and whole grains is inversely related to type 2 DM incidence.

Twelve small RCTs evaluated the effect of fiber in diabetes patients. Many different kinds of fiber were used, including wheat, guar, beet, soy, corn, agar, glucomannan, psyllium, and mixtures. Daily doses of 2 to 50 g were





administered for 3 to 20 weeks. Six of the 12 RCTs reported reductions in FBG. The other 6 RCTs reported no change in this outcome. Existing trials are limited by the heterogeneity of fiber formulations and the variation in doses and duration of treatment. Thus, the evidences of short-term hypoglycemic effect of fiber in diabetes patients are conflicting. Nonetheless, fiber can be recommended based on its salutary effect on other cardiovascular risk factors.

Green tea. Green and black tea both originate from the leaves of the *Camellia sinensis* plant. Green tea is heated to inactivate the enzymes that would otherwise oxidize the freshly collected leaves. The numerous health benefits of tea consumption are attributed to polyphenol catechins, particularly epigallocatechin gallate. These compounds have improved insulin



sensitivity and reduced beta-cell damage in animal and in vitro studies. Although caffeine initially impairs glucose metabolism, long-term exposure stimulates lipolysis, increases basal energy expenditure, and mobilizes muscle glycogen. Surprisingly, only one small RCT (N = 49) has evaluated green tea in the context of diabetes. In this study, patients with baseline HbA_{1c} levels of 6.5% to 9.1% were randomized to receive either an

extract containing green tea catechins and black tea theaflavins or placebo for 3 months. No improvements in HbA_{1c} levels were seen and FBG values were not measured. There is little evidence to support the use of green tea for glycemic control. Epidemiologic data suggest large potential benefits, but further research is warranted. Green tea consumption should still be recommended for its other potential health benefits.

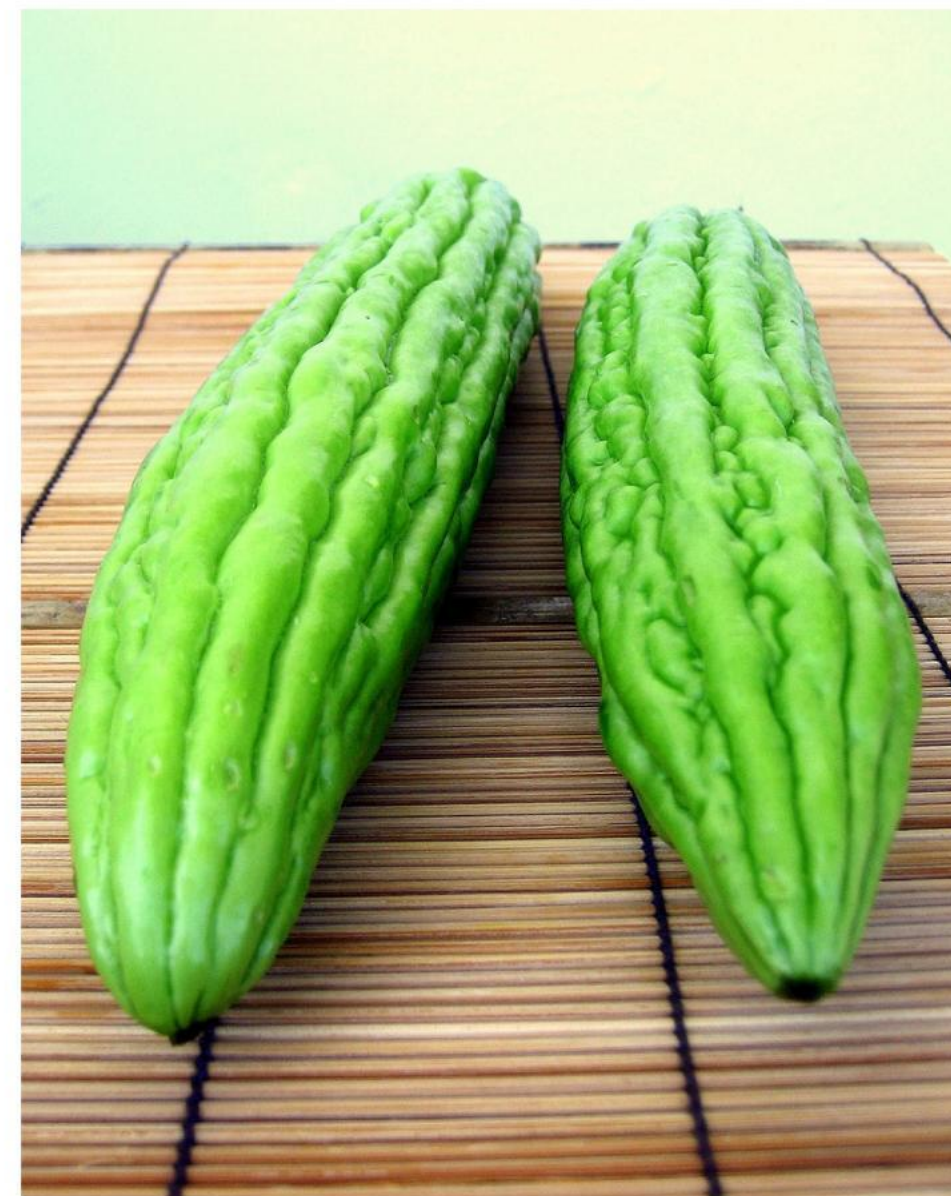
Bitter melon. Bitter melon (*Momordica charantia*) is a tropical vine that produces fruit that is used to treat diabetes in many traditional cultures, including the Philippines. Several of its active ingredients, including charantin, vicine, and polypeptide-p, are believed to stimulate insulin secretion and alter hepatic glucose metabolism. Two RCTs have evaluated the effects of bitter melon in patients with type 2 DM. In one,

patients with baseline HbA_{1c} values of 7% to 9% were given either 3 g of fruit and seed extract or placebo. After 3 months, there was no change in HbA_{1c} or FBG values. The other trial, in which patients consumed either 6 g of fruit and seed extract or placebo for 1 month, also reported no effect on HbA_{1c} or FBG values. No side effects were reported in either trial. There is no evidence to support the use of bitter melon.

The recommendation of the Department of Health of the Philippines endorsing *Momordica* for the management of diabetes comes from an unpublished study done at the University of the Philippines-College of Medicine, Department of Pharmacology where they tested the young leaves of a very specific variety of bitter melon and showed that it was comparable to glibenclamide in lowering blood glucose. However, it should be noted that this preparation of the bitter melon is not yet available commercially in the Philippines.

The different professional organizations in the Philippines (including Diabetes Philippines) dealing with the treatment of the diabetes came out with a position statement a few years back stating that based on evidences then, the use of *momordica charantia* cannot be recommended for the treatment of diabetes. Up to the present, no new good study has been conducted and published showing significant benefit in blood glucose lowering. This is true for the other complementary and alternative medications being sold in local markets at present.

Overall, there is a paucity of research evaluating CAM therapies that are commonly used to treat type 2 DM. This should be a high priority for CAM researchers and funding agencies in order to give the public and the diabetic patients genuine scientific information and not just hearsay. ○



The Lighter side of Diabetes

by Dr. Allan Hernandez



DIFFERENT STROKES FOR DIFFERENT FOLKS (LIKE FOLKS WITH DIABETES)

Nemencio Nicodemus, MD
Manila Doctors Hospital

You are watching your favourite afternoon television program when suddenly you felt that you were slipping from your chair. You try to pull yourself up but you can't. You want to push towards the left but your right arm seems to have lost its strength. You begin to panic and shout out for help but you could only mumble a few syllables which sound more like a moan. Then a terrible realization suddenly occurs. . . You are having a stroke!

This is a typical story of people who have experienced a stroke. The event could be very sudden and may occur at any time and in any place. Stroke or cerebrovascular disease (CVD) is one of the major complications of

diabetes mellitus that involve the large blood vessels going to the brain. Next to heart attack or myocardial infarction, it is the most common cause of death among people with diabetes. In terms of risk factors, diabetes is the third most important risk in developing a stroke following hypertension and smoking. Studies have shown that the risk of developing a stroke is 2 to 3 times higher among people with diabetes compared to the non-diabetic population. The risk is even up to 10 times higher among younger people less than 55 years old.

Among individuals who are admitted in the hospital because of stroke, 16 to 24 percent have undiagnosed diabetes and are the ones considered

to have poorer prognosis contributed by the elevated blood sugar levels on admission.

Stroke is generally classified into two major types: ischemic or hemorrhagic. Ischemic stroke occurs when part of the blood flow going to the different parts of the brain are blocked, either because of cholesterol deposition within the walls of the blood vessels (atherosclerosis) or by the presence of an embolus or blood clot, which may have originated in another part of the circulatory system and was dislodged and carried by blood to narrower blood vessels in the brain. Some of the ischemic strokes are very small to have physical manifestation or symptom. These kinds of stroke are

Studies among diabetics show that ischemic stroke is more common than hemorrhagic strokes. Lacunar infarcts are also more common among people with diabetes, which means that people do not have symptoms even if they already had a stroke and only realize it when they undergo CT scan of the brain.

only seen on head CT scan or MRI and are referred to as lacunar infarcts.

Hemorrhagic strokes, on the other hand, occur when one of the blood vessels in the brain rupture, causing a leakage of blood within the brain and even into the ventricles or spaces within the brain and eventually to the cerebrospinal fluid.

Studies among diabetics show that ischemic stroke is more common than hemorrhagic strokes. Lacunar infarcts are also more common among people with diabetes, which means that people do not have symptoms even if they already had a stroke and only realize

it when they undergo CT scan of the brain.

Stroke is also classified depending on its duration. There are people who develop symptoms such as weakness and slurring of speech for only a few hours then go back to being normal again within 24 hours. This kind is called transient ischemic attack or TIA. For most people, however, the symptoms persist and become permanent and, as such, are called completed stroke. Among people with diabetes, completed strokes are more common than transient ischemic attacks.

When one is having the symptoms of stroke, it is very important that he or she is brought to the hospital immediately because it is an emergency condition which may still be reversed if treatment is given within 3 hours. This is the so-called golden period. Timing is very important because it is estimated that 32,000 nerve cells or neurons die every second as the stroke progresses.

Based on several studies, stroke in people with diabetes is different from the stroke that occurs among non-diabetics. First, stroke is more common among people with diabetes. Secondly, the stroke attacks tend to repeat or are recurrent and hospital stay is longer. Third, death or mortality from stroke is higher among people with diabetes. Fourth, ischemic strokes are more common than hemorrhagic strokes and these are in the form of lacunar infarcts (small infarcts) in majority of cases. Fifth, transient ischemic attacks or TIAs are less common. Lastly, people with diabetes who had a stroke are more likely to develop dementia which leads to Alzheimer's disease.

Thus, it is very important that proper treatment be instituted and this takes the form of a multifactorial intervention which involves, first and foremost, blood pressure control together with control of cholesterol levels, control of blood sugar, the use of anti-platelet drugs and anticoagulants.

Diabetes presents with unique complications that altogether places the patient at higher risk of death. Stroke is no exception and the ways in which it is manifested among people with diabetes is an excellent proof. ○





diabetes philippines

2010 SCHEDULE OF ACTIVITIES

2nd Diabetes Forum

February 23, 2010 (Tuesday)
Golden Palace Restaurant, Daet, Camarines Norte

3rd Diabetes Forum and Lay Forum

February 24, 2010 (Wednesday)
• Villa Caceres, Naga City, Camarines Sur
• Our Lady of Fatima Church, Tabuco, Naga City

39th DiabetesWorkshop and 4th Diabetes Forum

February 25-26, 2010
(Thursday-Friday)
Casablanca Hotel, Legazpi City, Albay

40th DiabetesWorkshop

Casino Español de Cebu, Cebu City
June 10, 2010 (Thursday)

5th Diabetes Forum

Baseline Restaurant, Juana Osmena, Cebu City
June 11, 2010 (Friday)

3rd UNITE for Diabetes

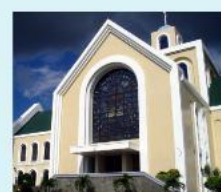
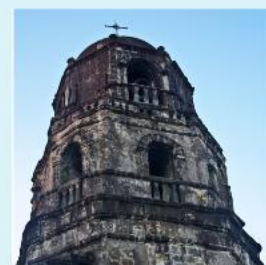
Crowne Plaza Galleria, Manila
September 3, 2010 (Friday)

27th Annual Convention of Diabetes Philippines

Asian Association for the Study on Diabetes (AASD)
6th Course on Diabetes and Vascular Disease
Century Park Hotel
November 10 - 12, 2010 (Wednesday-Friday)

Gimik Diabetes Year 4

World Diabetes Day Celebration
November 13, 2010 (Saturday)
Venue: TBA



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1923
Patient J.L. (age 3), on December 10, 1922, began to receive insulin, weighed 100 pounds.

1923
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1. Kahn S, Haffner S, Heise M, et al. Glycemic durability of rosiglitazone, metformin, or glyburide monotherapy. N Engl J Med 2006;354:2517-2523.
Erratum in N Engl J Med 2007;356:1357-1358.

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My left foot... Or what is left of it: TO AMPUTATE OR NOT

Nemencio A. Nicodemus Jr., MD
Manila Doctors Hospital

One of the most feared complications of diabetes among people who have this condition is the development of a non-healing wound that eventually becomes gangrenous. Patients who present to the emergency room with foul-smelling, gangrenous feet cannot escape the need for surgical intervention such as debridement and, in the worse scenario, amputation - both of which may be life-saving. Foot ulceration in patients with diabetes mellitus is always a serious risk factor for lower limb amputation.

Lower limb ischemia is one of the determinants in the development of diabetic foot ulcers and the most important factor preventing their healing. There are a number of misleading factors masking the presence of atherosclerotic disease and tissue damage, like reduced inflammatory response to infection, autsympathectomy and mediasclerosis. These factors all diminish the clinical suspicion of ischemia.

Therefore, adequate assessment of the lower limb circulation should be routinely performed in complicated diabetic foot. This evaluation can often be made with simple methods. In addition to clinical examination, ankle/brachial pressure index (ABI),

systolic toe pressure, and simple hand-held Doppler auscultation are most often sufficient to make a decision as to whether angiography is needed or not. Duplex



Amputations are not procedures of choice but are often necessary and valuable tools for returning a patient to a more active lifestyle. It is an interesting and not uncommon occurrence for the chronic wound patient, when offered an amputation, to have the procedure because the frequency of needed medical care has stripped him of his independence.

examination can give more profound information on the severity and extent of arterial occlusive disease, but the method is strongly user-dependent. Thus, early vascular consultation is mandatory in diabetic foot work-up and should be undertaken within 2 weeks if a new skin lesion shows no tendency to heal.

Long bypass grafting procedures have been shown to achieve excellent results in relieving critical leg ischemia, even in the presence of large foot lesions. Thus, these procedures should be used to prevent major amputation. The timing of the procedure, however, is a controversial issue. Feet with small ulcers or restricted dry gangrene can be revascularized first, with minor amputations and local surgery of the ulcer being done thereafter. If the infection is not immediately life-threatening, the infected part of the foot should be drained and debrided properly and left wide open. Then, bypass grafting can be done a couple of days later.

To amputate or to continue conservative treatment is usually a very difficult decision and not without mistakes. Life-threatening infections and avascular extremities that are not bypassable are the easier decisions to make, as there is little choice at that point. However, other degrees of wound infection are dilemmas to the clinician. For these conditions, both subjective and objective parameters must be used to decide on the most beneficial treatment option. Diabetic foot infections are evaluated using different scoring systems. The two commonly used systems are the University of San Antonio, Texas and the Wagner's scoring system. A study showed better clinical usefulness of the San Antonio classification system in prognosis of limb salvage.

The University of Texas Classification of Diabetic Foot Wounds is a straightforward system that grades wounds first with numbers 0 to 3 referring to depth then according to



burden of the wound (A to D):

Grade 0: pre- or post-ulcer with epithelialization
Grade 1: superficial and not involving tendon, bone or capsule
Grade 2: ulcer penetrates through to tendon or capsule
Grade 3: penetrating to bone or joint

Class A: Indicates non-infected/non-ischemic
Class B: Indicates infection
Class C: Indicates ischemia
Class D: Indicates infection plus ischemia.

The basic tenets of the Wagner system are as follows:

Grade 0: No open lesion but may have deformity or cellulitis

Grade 1: Superficial ulcer, partial or full-thickness

Grade 2: Ulcer extends to ligament, tendon, joint capsule or deep fascia without abscess/osteomyelitis

Grade 3: Deep ulcer with abscess, osteomyelitis or joint sepsis

Grade 4: Gangrene localized to forefoot or heel

Grade 5: Extensive gangrene

The risk factors for lower extremity amputation in the diabetic foot include

the following:

- Absence of protective sensation due to peripheral neuropathy
- Arterial insufficiency
- Foot deformity and callus formation resulting in focal areas of high pressure
- Autonomic neuropathy causing decreased sweating and dry, fissured skin
- Limited joint mobility
- Obesity
- Impaired vision
- Poor glucose control leading to impaired wound healing
- Poor footwear that causes skin breakdown or inadequately protects the skin from high pressure and shear forces
- History of foot ulcer or lower extremity amputation

Amputations are not procedures of choice but are often necessary and valuable tools for returning a patient to a more active lifestyle. Because of the co-morbidities associated with diabetes, this is an important consideration. A return to a more active existence can reduce the effect of vascular disease, hyperglycemic states, and functional limitations. It is an interesting and not uncommon occurrence for the chronic wound patient, when offered an amputation, to have the procedure because the frequency of needed medical care has stripped him of his independence. The frequency of wound care in the non-healing wound and its personal demands can be compared with the demands placed on the dialysis patient. The greatest obstacle in deciding for amputation is a sense of hesitancy. The ability of the surgeon to make this decision comes with experience and with prioritizing the patient's needs. In deciding whether to amputate, the wise surgeon will take into consideration the medical and mobility needs of each patient and determine level and timing based on understanding of the whole person. ○



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media@idf.org



Another research project from the Philippines gets International Diabetes Federation BRIDGES grant in second round of funding

IDF reinforces its support to translational research in diabetes with the second round of its funding programme, BRIDGES (Bringing Research in Diabetes to Global Environments and Systems).

"BRIDGES is a key programme for IDF's work and mission. It aims to fund translational research projects in diabetes prevention and treatment to provide the opportunity to translate lessons learned from clinical research to those who can benefit most: people affected by diabetes.

A total of 157 applications were considered for the second round of funding. Only 9 new diabetes research projects were funded for a total of US\$2 million over the next three years as part of the International Diabetes Federation's (IDF) translational research grant programme, BRIDGES. The chosen projects address important issues in primary and secondary prevention of diabetes in different parts of the world.

The research project from the Philippines is on "Family Stress Reduction and Coping Response Training Among Filipino Patients with Type 2 Diabetes Mellitus". This is being carried out by the East Avenue Medical Center Section of Endocrinology with Dr. Ma. Teresa Plata-Que as principal investigator. Co-investigator is Ms. Gilda Lopez from the Ateneo de Manila University Department of Psychology.

The objective of this project is to introduce a psychological intervention of family stress reduction and coping response training to the diabetes education program for Filipino patients with type 2 diabetes mellitus. If proven effective it can be introduced to other government hospitals and modified for the community setting.

Other projects awarded focus on topics such as lifestyle intervention to prevent type 2 diabetes, gestational diabetes, peer support and foot inspection for the visually impaired.

ONTARGET® The Landmark Trial in Cardio and Vascular Protection

The Results

- Telmisartan 80mg is as protective as ramipril 10mg in reducing CV death, MI, stroke, and CHF hospitalization
- Telmisartan treatment is better tolerated than ramipril, and has a higher compliance rate



The sponsor of ONTARGET® is Boehringer Ingelheim, the co-funder in the Philippines is GlaxoSmithKline.
Reference: The ONTARGET Investigators. Telmisartan, Ramipril or Both in Patients at High Risk for Vascular Events. N Engl J Med 2008; 358:1547-59.

DIABETIC DYSLIPIDEMIA

Open your eyes to microvascular risks

Diabetic retinopathy
At least 10 million people are blind or have vision impairment due to diabetic retinopathy, and this number is expected to double by the year 2025 if no major control strategy is developed.

Diabetic nephropathy

Diabetic neuropathy

Lipanthyl®, first lipid modifying agent shown to prevent diabetic eye disease

- Reduces the need for laser treatment in patients with and without known diabetic retinopathy
- Decreases development and progression of existing diabetic eye disease

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New data to follow up the results of the 2005 FIELD study

Sub-analysis
Out of 5795 patients, 462 underwent one or more laser treatments during the study to total 372 courses of laser treatment for diabetic retinopathy were performed.

Diagnosis
Classification of laser treatment for:
- non-proliferative
- proliferative retinopathy without macular involvement

Lipanthyl® reduces the leading cause of blindness and vision deterioration for T2D

- Lipanthyl® reduces the need for laser treatment for any type of diabetic eye disease

First laser therapy

Effect of Lipanthyl® on first laser therapy for any type of diabetic retinopathy

Reduction in the need for laser treatment:
-31% for overall population
-49% for patients without retinopathy at baseline

Reduction in the need for cumulative laser treatment:
-37% for overall population
-49% for patients without retinopathy at baseline

Reduction in the need for laser treatment:
-31% for overall population
-49% for patients without retinopathy at baseline

Reduction in the need for laser treatment:
-31% for overall population
-49% for patients without retinopathy at baseline

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BRAIN ATTACK: WHAT TO DO AND HOW?

Elizabeth Paz-Pacheco, MD
UP-PGH; The Medical City

What is emergency thrombolysis and how does this help in this condition?

Mr. AB is a 65 year old male who suddenly experienced headache, dizziness and blurring of vision. He is a known diabetic for about 15 years. Luckily for him, he was within the area close to a hospital prepared to handle these conditions and yes, got his diagnostic tests and immediate treatment, include thrombolysis. He has recovered well with no residual neurologic deficits.

Timely restoration of blood flow using thrombolytic therapy is the most effective maneuver to save brain tissue that is not yet infarcted (or dead). There is a narrow window during which

this can be achieved though, that is, within 4.5 hours of the beginning of symptoms. It is therefore imperative that when a stroke is happening for the patient to be brought right away to a nearby facility that can handle this situation.

The goals in the initial phase include ensuring that the patient is medically stable with treatment of any medical complications. It is essential to quickly reverse any conditions that are contributing to the patient's problem, to minimize brain injury. Physicians at emergency room will determine if thrombolysis is the right treatment approach. This special treatment is given to patients with clots in the arteries of the brain, not for brain hemorrhage (or bleed). Clinical features aid the doctors in determining

whether it is an ischemic or hemorrhagic stroke. This will be confirmed by diagnostic imaging procedures such as head CT scan or MRI.

Airway and breathing should be provided with good positioning of patient while in transit to a medical facility. Keep the head in neutral alignment with the body and elevate the head of the bed to 30 degrees for all patients in the acute phase of stroke.

Upon reaching the hospital, tests are done to determine blood sugar, bleeding parameters, electrolytes, cholesterol levels and kidney function, among others. It is important to rule out a heart attack. The imaging procedure of the head through CT or

Long term management includes physical therapy and testing to determine the precise etiology of the event so as to prevent recurrence. Smoking cessation is a must, and control of various risk factors including BP, cholesterol, blood sugar and weight should be carried out effectively.

MRI will direct physician to the next appropriate treatment step.

Blood glucose. Alterations in serum glucose are common. It is important to check the blood sugar at the first opportunity since hypoglycemia can present with focal neurologic deficits and glucose should be administered immediately. Hyperglycemia, on the other hand, whether uncontrolled in a known diabetic or determined as elevated for the first time, needs to be controlled.

Fever. This may be a manifestation of brain infection such as meningitis and abscess, and should be excluded as the etiology of fever. In addition, fever may contribute to brain injury in acute stroke.

Blood Pressure. Most consensus guidelines recommend that blood pressure NOT be treated acutely in the patient with ischemic stroke unless the hypertension is extreme (systolic blood pressure >220 mmHg or diastolic blood pressure >120 mmHg), or the patient has active ischemic coronary disease, heart failure, aortic dissection, hypertensive encephalopathy, acute renal failure, or pre-eclampsia/eclampsia. When treatment is indicated, cautious lowering of blood pressure by approximately 15 percent during the first 24 hours after stroke onset is suggested [Adams, Stroke 2007].

Treatment with Thrombolytic Therapy. Treatment with thrombolytic therapy should be considered for some

patients with acute ischemic stroke. The eligibility criteria and utility of thrombolytic therapy as well as the treatment of patients not eligible for thrombolysis are reviewed by the physician and discussed with patient and family members.

Long term management includes physical therapy and testing to determine the precise etiology of the event so as to prevent recurrence. Smoking cessation is a must, and control of various risk factors including BP, cholesterol, blood sugar and weight should be carried out effectively.

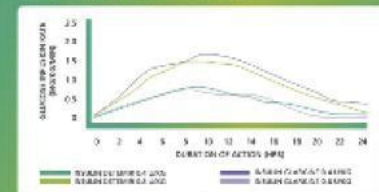
Stroke or brain attack is an emergency. Time is of the essence. ○



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