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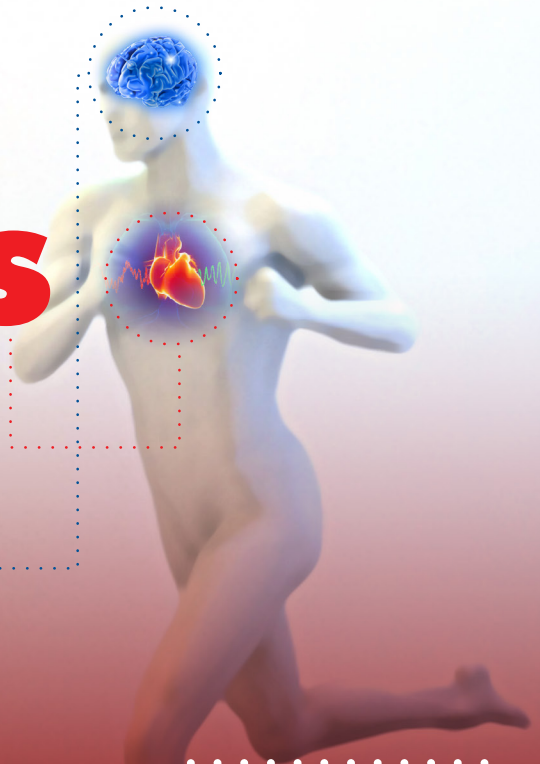
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of Hearts n Minds



Diabetes and Cardiovascular Disease: 10 Practical Clinical Pearls to Remember

Cardiovascular Risk Assessment of the Asymptomatic Diabetic Patient

Inane Things That Could Break Your Heart

Is Alzheimer's Disease Type 3 Diabetes Mellitus?

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Contents

7 Diabetes and Cardiovascular Disease: 10 Practical Clinical Pearls to Remember



9 Cardiovascular Risk Assessment of the Asymptomatic Diabetic Patient



13 Inane Things That Could Break Your Heart



18 Is Alzheimer's Disease Type 3 Diabetes Mellitus?



Regulars

4 YOUR PRESIDENT SPEAKS

5 FROM THE EDITOR'S DESK

6 DP CHAPTERS

31 LIGHTER SIDE OF DIABETES

21 Brain Exercises



24 In Memoriam:
Ma. Imelda Q. Cardino+



26 New Kid on the Block
DP Oriental Mindoro Chapter



28 DP Building Groundbreaking Ceremonies



32 On the Move



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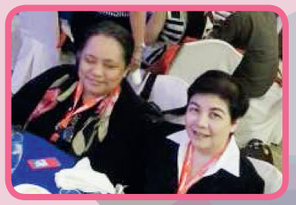
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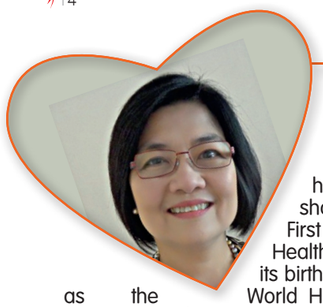




Dr. Celine Teves Aquino and Dr. Marivic Vestal

Drs. Celine Teves Aquino and Marivic Vestal are Cebu-based cardiologists and talk show hosts at large.

YOUR PRESIDENT SPEAKS



Oh, how time flies! The first half of 2016 has passed. Two significant events has happened which I would like to share with you.

First is the fact that this year, the World Health Organization (WHO) celebrated its birthday or founding day, also known as the World Health Day 2016 with the theme "Let's Beat Diabetes".

The World Health Day is a global health awareness day celebrated on April 7 of every year. In its global report on diabetes, the WHO highlighted the need to step up prevention and treatment of the disease. Ms. Leyden Florido and myself went to the WHO headquarters in Manila to represent Diabetes Philippines (DP). We stood with the WHO-Western Pacific Region member states and partners to renew our commitment to advance the understanding of diabetes and call on all communities across the Region to work together to effectively manage and prevent the disease.

Dr Shin Young-soo, WHO Regional Director for the Western Pacific said, "It is only by working together that we can truly stop the rise of diabetes in the Western Pacific." The phrase, "Get in the Circle", referring to the blue IDF circle was used to invite everyone to literally enter a big blue circle on the floor to demonstrate that we are joining in the fight to beat diabetes. "Together on the Front Lines against Diabetes" is our call to action. For those interested in the WHO recommendations and actions needed, you may visit their website (http://www.who.int/world- health-day/en/).

The second significant event is the construction of the DP building along Boni Avenue in Mandalyong City. Allow me to share some history with you. Our organization is now 58 years in existence.

In its early years, the Philippine Diabetes Association or PDA (now DP) occupied spaces in previous PDA Officers' clinics and then in a room in the Lung Center of the Philippines. In 1992, during the term of Dr. Augusto Litonjua, the PDA bought and moved to its own office which was a condominium unit in the the Facilities Centre along Shaw Blvd. Through the years, subsequent Officers have noted that the Facilities Centre office has become too cramped for our ever-growing needs. So, during the term of our hard-working Dr. Tommy Ty Willing, he took on the challenge of looking for a lot where DP could build its own office building. This came to fruition during the term of Dr. Susan Yu-Gan in 2011, when the property at Boni Avenue corner Ligaya Street was purchased. Initial plans to construct DP's building actually started during Dr. Richard Elwyn Fernando's term in 2013, but this was delayed due to other pressing concerns at that time.

Last March 10, 2016, a simple groundbreaking ceremony to initiate the construction was done and we hope to have a Diabetes Philippines building by the end of this year.

With God's help, when we put our "hearts and minds" to something, I think a lot can be achieved.

Rina T. Tan, MD
President

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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

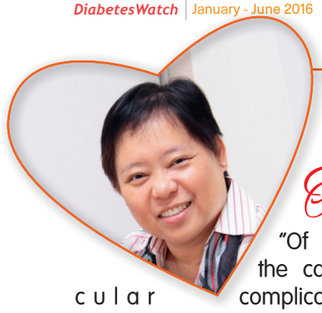
INTEGRITY
Above all, the nobility of our purpose.
We serve patients, pursue education and conduct research with zeal and without regard for personal gain. Honesty and transparency rule our behavior in relating with fellow members, partners, supporters and other stakeholders of our organization.

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 solution 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.

FROM THE EDITOR'S DESK



Greetings!

This Jan-Jun 2016 volume of Diabetes Watch entitled "Of Hearts and Minds" highlights the cardiovascular and cerebrovascular complications of diabetes. Persons with diabetes are two- to four-fold likely to develop these complications, get admitted to hospital for their treatment, and some eventually succumb to them. Which diagnostic tests are helpful in diagnosing asymptomatic individuals with diabetes before they get a heart attack? Get helpful clinical pearls on cardiovascular disease and diabetes from an international expert. And as bizarre as they seem, discover why these inane things could actually break your heart! Is there such a thing as Type 3 Diabetes? Find out if brain exercises can actually prevent dementia. These are the scientific articles that we have in store for you, our readers, in this issue.

For Diabetes Philippines, the organization had bad and good news the first half of the year. DP bade farewell to one of the members of the board of directors when Ate Emy Cardino lost in her battle with cancer. She would have been involved in supervising the construction of the planned DP building. She was greatly missed during the groundbreaking ceremonies last March. The planned building is a dream come true for DP - there will be commercial spaces for lease in the ground floor and the upper floors will have ample space for the DP office, meeting rooms and a conference area.

The DP family continues to grow with yet another local chapter recently organized in the province of Oriental Mindoro. Founding president, Dr. Joji Marcos and the rest of the officers and board of directors of DP OrMin were inaugurated into office last May.

In our DP On the Move pages, follow the other activities that DP has been busy with in the first half of 2016. Brace yourselves for more activities as 2 more diabetes workshops and lay fora plus our annual convention are scheduled later in the year!

Marsha C. Tolentino, MD
Editor-in-Chief

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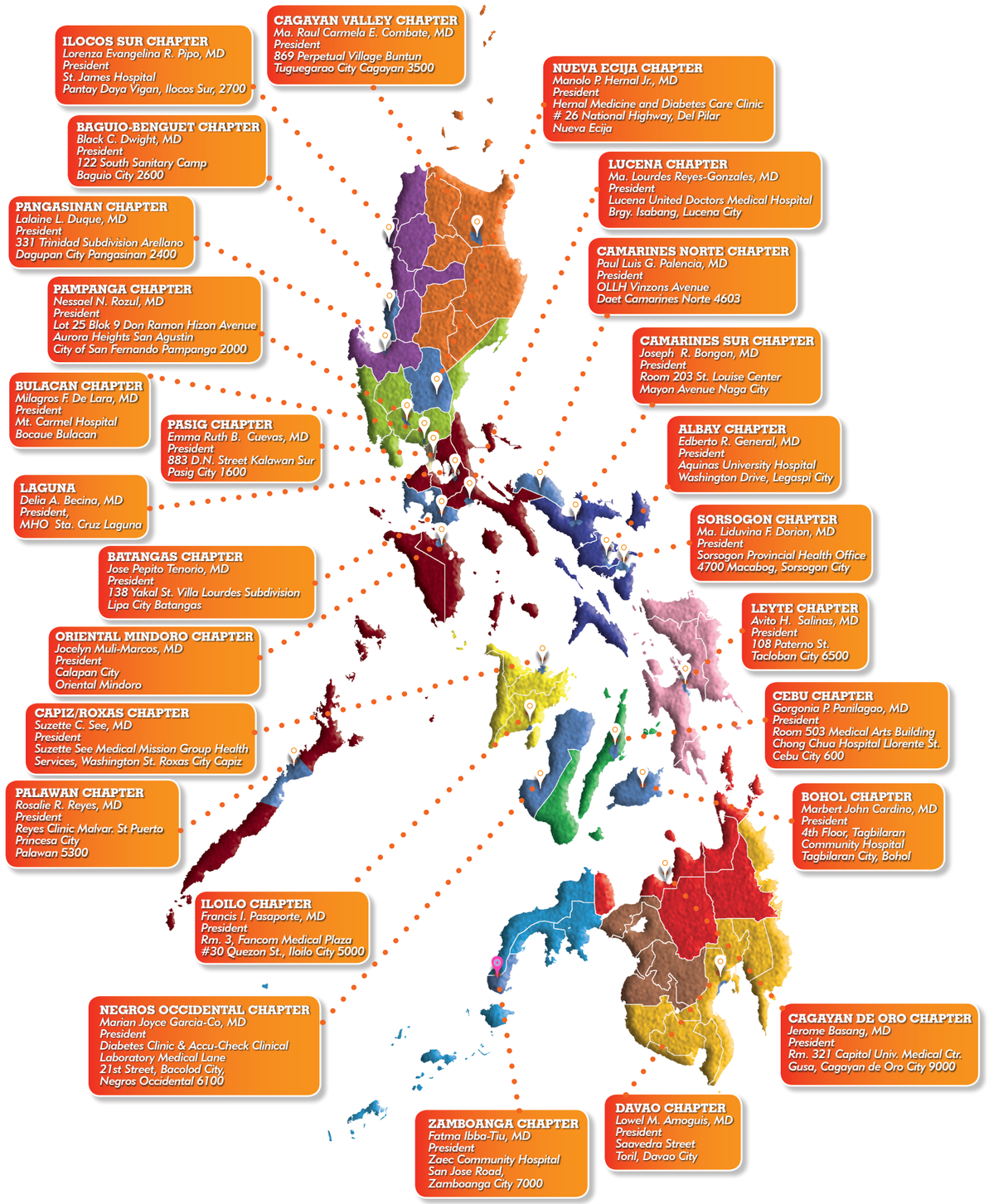
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Diabetes Philippines **Chapters**



Diabetes and Cardiovascular Disease:

10 Practical Clinical Pearls to Remember

by Francis Q. Almeda, M.D., F.A.C.C., F.S.C.A.I.



Diabetes and cardiovascular disease are inextricably linked, and the traditional risk factors of obesity, hypertension, and hyperlipidemia cluster in similar patient cohorts.

As an interventional cardiologist, I often see the final endpoint of decades of exposure to the diabetic milieu, and I am usually called in an emergency situation to treat a patient with an acute coronary syndrome or acute myocardial infarction. Severe coronary artery disease and heart failure however, merely represent the "tip of the iceberg" of diabetic heart disease.
Oxidative stress and Inflammation appear to be major contributors to the pathophysiology underlying diabetes and cardiovascular disease and the subsequent complications. Other mechanisms that increase cardiovascular risk in diabetic patients include hyperglycemia, insulin resistance, autonomic dysfunction, and diminished vascular responsiveness.

After more than 15 years of treating patients with both cardiovascular disease and diabetes, these are some of the most important clinical points to remember.

1. More than 2/3 of diabetics will die of a cardiovascular event, and there is a two to fourfold increase in the relative risk of cardiovascular disease in diabetics compared with the general population1.

2. In general, the presence of diabetes confers as much additional risk as having had a previous heart attack in any given individual patient.

4 Diabetes incrementally increases the complexity of coronary artery disease: greater number of diseased vessels, more diffuse disease, smaller distal targets, and higher risk of repeat procedures and coronary stent restenosis.

5 In patient with severe (usually proximal) multivessel coronary artery disease and diabetes, coronary artery bypass graft surgery (with utilization of a left internal mammary artery) is the preferred strategy due to improved long term mortality[3].

6 Diabetic patients are at higher risk for heart failure, and those who develop heart failure have a worse prognosis than non-diabetic individuals.

7 The potential side effects and adverse cardiac outcomes associated with the various available medications for the treatment of diabetes need to be carefully considered and patient specific characteristics (i.e. risk of heart failure) need to be incorporated into the decision making process.

8 Peripheral artery disease is exceedingly common in diabetic patients, is more often asymptomatic, is usually associated with distal disease and with worse outcomes and higher risk of amputation.

9 Initiation of at least a moderate dose of a potent statin should be strongly considered in most, if not all, diabetics.[4]

10 Risk factor modification and a heart healthy lifestyle including optimization of blood pressure and lipids, smoking cessation, achievement of ideal body weight, and regular exercise remain the cornerstones for the prevention and treatment of diabetic heart disease.

Due to the "double threat" of the obesity epidemic, which particularly affects the younger generation, and the ever-increasing aging population, diabetes and cardiovascular disease will continue to be our foremost clinical challenge. Expertise in the diagnosis and management of diabetic heart disease and the complex conditions associated with this entity will remain an essential component of contemporary clinical medicine.

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Cardiovascular Risk Assessment of the Asymptomatic Diabetic Patient

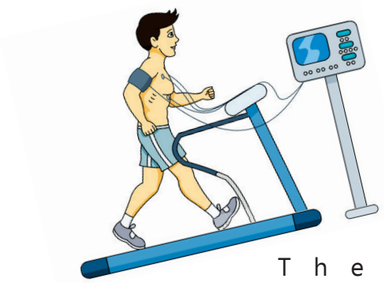


By Alex T. Junia, MD, FPCP, FPCC

Patients with type 2 diabetes mellitus have at least a 2-fold increased risk of coronary heart disease (CHD) and 2- to 4-fold increased risk of CHD and stroke mortality compared with patients without diabetes. Currently two-thirds of deaths among persons with diabetes are related to cardiovascular disease (CVD).

The Finnish observational study by Haffner showed that diabetic patients without prior myocardial infarction (MI) had a similar coronary heart disease (CHD) risk to those patients with prior MI but without diabetes. Based on this and other large population studies, diabetes was regarded as a "coronary risk equivalent" implying a more than 20% risk of developing CVD in 10 years.

A systematic review and meta-analysis by Bulugahapitiya included 13 studies involving 45,108 patients with the mean duration of follow-up of 13.4 years (range 5 to 25 years). In contrast to Haffner's study, this showed that patients with diabetes without prior MI had a 43% lower risk of developing CHD compared with patients without diabetes with previous MI (summary OR: 0.56; 95% CI: 0.53 to 0.60).



The heterogeneity in CHD risk among diabetic patients warrants further risk stratification before universal treatment. Risk assessment aims to identify the individual that requires intensified preventive approaches. A number of risk scores have been formulated for patients with diabetes but these have been shown to have good results in the populations in which they were developed. Validation of the risk engine is needed in other populations.

Which noninvasive testing will help stratify asymptomatic patients with diabetes?

1. Exercise testing

Exercise testing can identify diabetic patients with silent ischemia and other exercise-induced abnormalities.

In the Look AHEAD (Action for Health in Diabetes) study, Curtis et al. sought to determine the prevalence and correlates of exercise-induced cardiac abnormalities on maximal graded exercise test in 5,783 overweight/obese asymptomatic middle-aged men and women with T2DM. Exercise-induced abnormalities were present in 1,303 (22.5%) participants, of which 693 (12%) consisted of impaired exercise capacity: ST-segment depression in 440 (7.6%) and abnormal heart rate recovery in 206 (5.0%).

The DADDY-D (Does coronary Atherosclerosis Deserve to be Diagnosed and treated early in Diabetics?) trial by Turrini et al. enrolled 520 moderate- to high-risk asymptomatic diabetic pa-

tients who were randomized to either (1) undergo an exercise stress test aimed at identifying obstructive CAD, 0r (2) managed with pharmacological and behavioral therapy. They found silent ischemia in 7.6% of patients. However, the study concluded that screening and revascularization of silent CAD did not result in a significant reduction of cardiac events and heart failure episodes.

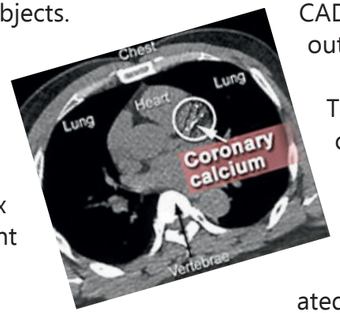
Cheng et al. found that heart rate recovery was an independent prognostic indicator for CVD and all-cause mortality in 2,333 men with diabetes. The adjusted hazard ratios (HRs) for cardiovascular death in men in the slowest quartile of heart rate recovery, compared to the first, second, and third quartiles were 2.0 (95% CI: 1.1 to 3.8), 1.5 (95% CI: 0.8 to 2.7), and 1.5 (95% CI: 0.9 to 2.8), respectively (p for trend <0.001).

Naka et al. showed a prevalence of silent myocardial ischemia 2.2x higher in patients with diabetes mellitus (DM) that in nondiabetic control subjects. Diabetic patients who received insulin had a 2.6x higher prevalence of silent myocardial ischemia, and patients with diabetic retinopathy had a 2.5x higher prevalence of silent myocardial ischemia.

2. Coronary Artery Calcium Score (CACS)

Coronary calcium identified by electron-beam computed tomography (EBCT) correlates poorly with luminal atherosclerotic narrowing. Histopathologic studies have shown that the extent of coronary artery calcium (CAC) is closely associated with total coronary artery atherosclerotic plaque burden. Studies also suggest that there is a threshold value for plaque area below which coronary calcium is either absent or not detectable.

Numerous studies have proven that CAC scores predict incident CAD in the general population. Patients affected by type 2 DM harbor larger amounts of CAC than nondiabetic patients of a similar age. Unlike the general population, women and men with type 2 DM have a similar extent of CAC, confirming the clinical evidence that diabetes negates the well-known advantage of women over men in prevalence and extent of atherosclerosis. The extent and prevalence of CAC in patients with type 2 diabetes asymptomatic for CAD is similar to that of patients with established CAD but without diabetes.



The extent of CAC has been shown to be associated with the prevalence of inducible ischemia by single-photon emission computed tomography (SPECT) myocardial perfusion imaging (MPI). In nondiabetic patients, the CAC score threshold at which the prevalence of ischemia increases substantially is >400. In contrast, in diabetic patients this threshold has been reported to be lower.

Several studies have demonstrated that increased CAC in persons with metabolic syndrome and diabetes is associated with increased prevalence of ischemia, events and mortality. CAC was a better predictor of incident cardiovascular events (85 events after 8.5 years of follow-up) compared with the Framingham risk score and the UKPDS (United Kingdom Prospective Diabetes Study).

A high proportion of adults with diabetes have a 0 or very low CAC score resulting in an excellent prognosis of these patients. The study by Raggi et al. documented a prevalence of 39% of 0 or very low (<10) CAC in asymptomatic DM patients. In MESA, 38% of DM patients were reported to have a CAC score of 0, and in the HNR (Heinz Nixdorf Recall) study, 39.3% of women with diabetes and 13.4% of men with diabetes had a CAC score of 0. Importantly, the absence of CAC predicted a low short-term risk of death (~1% at 5 years) for diabetic patients, which was slightly higher but statistically similar to that of nondiabetic patients.

Measurement of CACS enables cardiovascular risk in type 2 diabetes to be stratified so that the level of preventive therapy could be reduced in some and intensified in others. The overall evidence would support the use of CAC scanning for risk stratification and to guide management in the asymptomatic DM patient, as recommended with a Class IIa indication in the 2010 AHA/ACC guidelines.

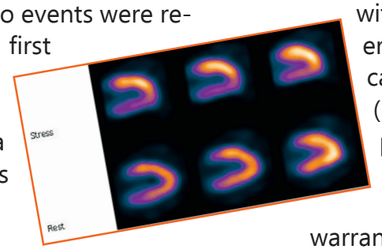
3. Echocardiography

Many clinical and epidemiological studies have suggested the presence of diabetic cardiomyopathy in humans. The increased incidence of heart failure in diabetic patients is more than what can fully be explained by obstructive CAD and traditional risk factors. Damage often occurs at the microvascular level, which then leads to fibrosis and subsequent systolic and diastolic dysfunction. Several studies have demonstrated an independent association between diabetes and left ventricular (LV) mass and wall thickness and reduced LV systolic function.

The prevalence of diastolic dysfunction is also greater in diabetic patients than in normal individuals and has been reported to be between 43% to 78%. The wide range can be explained by differences in age, duration of diabetes, and other comorbidities in the study populations. Left atrial (LA) enlargement and dysfunction (based on speckle tracking–derived strain and Doppler values) have also been reported in diabetic patients.

Several studies have demonstrated the prognostic value of stress echocardiogram in the DM population. Marwick et al. studied 937 DM patients with known or suspected CAD who underwent stress echocardiography or dobutamine stress echocardiography (DSE). Regression analysis showed that the presence and extent of resting LV dysfunction and ischemia were predictive of death. The total mortality of persons with DM with a negative test was ~4%/year, which is higher than the 1%/year previously reported for unselected patients. The strongest predictor of death was referral for DSE likely due to higher comorbidities and risk factor burden in these patients. The risk of death in patients with ischemia correlated with the extent of ischemia.

Elhendy et al. showed similar results in 563 patients. Those with an abnormal stress echocardiography experienced a higher event rate than those with a normal test at 1 year (2% vs. 0%), 3 years (12% vs. 2%), and 5 years (23% vs. 8%). No events were recorded in the first 2 years of follow-up among patients with a normal stress echo.



Cortigiani et al. evaluated 5,456 patients (749 diabetic) who underwent dipyridamole or dobutamine stress echocardiography. After a median of 31 months, stress-induced ischemia, resting wall motion score index, and age were independent predictors of death and cardiac events in both diabetic and nondiabetic patients. However, diabetic patients with a normal stress test had a 2-fold greater annual event rate during follow-up.

Both pharmacological and exercise stress echocardiography provide excellent prognostic information in the diabetic population. However, the late event rate is higher in the diabetic than the nondiabetic population even in those with a normal stress test, which serves as a reminder of the rapid progression and high-risk nature of diabetic CAD.

4. Radionuclide Imaging

The large volume of data supporting the prognostic value of gated SPECT MPI renders it particularly appealing for screening asymptomatic DM patients.

A normal myocardial perfusion scan in DM patients is associated with a slightly higher risk of adverse cardiac events (1.6%/ year) compared with nondiabetic patients (<1%/year). The warranty period of a normal MPI is also lower in the DM patient, with event-free survival curves beginning to diverge from nondiabetic populations in the second year after the index normal scan.

Observational studies performed more than a decade ago report-

ed a prevalence ranging from 16% to 59%, with approximately 20% of patients having high-risk findings.

The DIAD (Detection of Ischemia in Asymptomatic Diabetics) study, a prospective study which recruited truly asymptomatic patients, reported a prevalence of any perfusion defect or LV function abnormality of 22% or moderate to large ischemia of 6%. A more recent analysis of 1,354 patients (302 with diabetes) without angina or dyspnea who underwent clinically indicated stress testing revealed a low prevalence of any myocardial ischemia (7.2%) or prognostically significant ischemia (4.4%) in the overall study population. The prevalence of asymptomatic ischemia was significantly higher in patients with diabetes (12.5% vs. 5.6%) compared with those without.

Selecting patients based on the pre-test clinical risk of CAD can improve the yield of stress testing in asymptomatic DM patients. The retrospective studies that showed a high prevalence of stress test abnormalities included patients with abnormal electrocardiograms (ECGs) (43% with Q waves) and vascular disease (28%). A high CAC score is predictive of moderate to severe silent myocardial ischemia on SPECT in diabetic patients (48% and 71% ischemia if CAC score >400 and >1,000, respectively).
The recent BARDOT (Basel Asymptomatic High-Risk Diabetes Outcome Trial) prospectively recruited 400 asymptomatic patients with type 2 DM. Baseline SPECT MPI was abnormal in 22%. Patients randomized to revascularization had similar rates of major adverse cardiovascular events (symptomatic CAD progression), but lower rates of asymptomatic CAD (more ischemia or new scar) progression (54.3% vs. 15.8%).

The yield of MPI can be improved by selecting a higher-risk group of patients with symptoms, peripheral vascular disease, CKD, an abnormal ECG, or a high CAC score (e.g., >400). In such patients, intense medical therapy appears to retard progression of asymptomatic and symptomatic CAD. Whether coronary revascularization offers additive prognostic benefit to medical therapy when the ischemic burden exceeds any particular threshold is still unclear for the asymptomatic diabetic population.

Conclusion

Management strategies for diabetes have shifted from glucocentric to multi-factorial, to identify and target patients' cardiovascular risk factors. There is great heterogeneity in the global CHD risk of patients with DM. The risk of patients with DM ranges from very low in one-third of asymptomatic diabetic patients with no or minimal coronary calcium to high observed in diabetic patients, particularly women, with CAC >400, with symptoms, multiple risk factors, and/or CKD, compared with their nondiabetic counterparts.

Functional stress testing may further refine risk estimation in asymptomatic patients with DM who have a high CAC. The available data suggest that this might result in a future recommendation for CAC screening in type 2 diabetes, followed by functional testing for ischemia in patients with a pre-determined CAC threshold. Although this approach has been shown to improve the stratification of persons with DM, it has not yet been shown to result in improved outcomes. More clinical trials are needed to address this knowledge gap.

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Inane Things That Could Break Your Heart

By Dr. Celine Teves Aquino and Dr. Marivic Vestal

The research on cardiovascular disease (CVD) progresses in leaps and bounds and almost every day, a new pop-up will announce a new "risk factor". But what is a risk factor and what differentiates it from just another associated condition?

The Framingham guidelines do not accept a new marker as a risk factor unless it has been validated in well-constructed, adequately powered studies to actually predict strong endpoints like death - for what could be more definitive than death?

"Inane" means "ridiculous" or "absurd" and this article will explore some factors that at first glance can not possibly affect the incidence of heart attacks – in short "INANE THINGS THAT CAN CAUSE A HEART ATTACK".

1} Skipping breakfast.



From childhood, our parents have repeatedly told us that breakfast is the most important meal of the day. It's "breakfast": Break-the-fast. It is so-called because there averages 10 hours between supper and the morning meal. For a variety of reasons - because of the morning rush, because we wake up too late - for a thousand and one reasons, this generation skips breakfast.

Were our mothers' admonitions wrong? In 2013, the Harvard School of Public Health published a study on almost 27,000 middle-aged health professionals followed up for over 16 years[1]. These subjects were categorized into: 1) those who ate breakfast early i.e. before the regular breakfast time; 2) those who ate at the usual time for breakfast; 3) those who ate lunch as breakfast; and 4) those who ate breakfast between the usual breakfast and lunch hours. The study showed that people who skipped breakfast had a 27% increased risk for coronary artery disease (CAD) over those who did eat it. And while it is commonly thought that people who skip breakfast lose weight, the study found otherwise. People who skip breakfast tend to eat higher calorie meals later in the day & tend to eat more at night! This cycle of feast and famine alters the metabolism and predisposes to metabolic syndrome and subsequently to heart disease.

The study does not claim a cause & effect relationship between skipping breakfast and heart disease, rather, underlines a link - a link between people who skip breakfast and hypertension, obesity & DM so that despite its limitations, the study validates the health benefits of breakfast.

2} Tulog-Busog!



That same Harvard study also showed that late night food bingers up their CAD risk by 55%[1]. This brings us to our next inane thing: Tulog-Busog!

James Gandolfini was a much loved TV actor best known for his role as Tony Soprano in HBO's The Sopranos but he made headlines in 2013 when he succumbed to sudden cardiac death.

His cardiac risk profile is not common knowledge but speculation exists that it may have made him a "walking time bomb", at least as regards an acute myocardial infarction (MI). What IS common knowledge is that on the night he died, he had an extraordinarily heavy supper … consisting of back-to-back orders of fried king prawns PLUS a large portion of foie gras: a well-known delicacy made from the liver of force-fed geese and served as pate, mousse or parfait. But did that do it for poor Tony Soprano? If so, how could a meal kill?

A US Veterans' study reviewed the files of 2000 MI patients and found that 158 of them had a heavy meal just before their MI.[2] The study went on to conclude that people with an already high-risk profile for MI were 4X more likely to have an MI after a heavy meal!

A super-sized meal causes blood to be diverted to the splanchnic circulation decreasing blood flow to the other important organs and this leads to endothelial dysfunction with resultant impairment of vessel dilatation. The heart rate increases as the splanchnic circulation goes into overdrive. There is release of norepinephrine (NE) and subsequent elevation of blood pressure (BP) along with the post-prandial increase in triglycerides (TG) that results in blood becoming thicker and "fatty-er" – all events that set the stage for an MI!

So can a meal kill you? If you overdo it and you have other risk factors, you bet it can.

3} Christmas.



Christmas may be the most wonderful time of the year as every sappy Christmas song goes – but in reality, Christmas can exact a heavy toll on the heart. The incidence of MI actually rises during Christmas[3]! Along with the increase in hospitalizations, there is also a rise in the death census during the festive season!

A DZMM teleradio program hosted by Nina Corpuz actually featured the phenomena of the "Christmas coronary" and the "happy new year heart attack" with guest Dr. Christopher Nazal of the College of Occupational Medicine.

The frequent parties that mark the holiday season are a cue for heavy meals usually featuring roast pig (lechon) and the rich desserts that characterize a Filipino celebration. Another mechanism of the "ho-ho-ho" heart attack is appropriately enough, the so-called "Holiday heart "– that phenomenon of acute arrhythmia triggered by heavy alcohol use!

And for the record, that "holiday heart" does not limit itself to Christmas. It can refer to any holiday when excessive drinking is a feature and in the Philippines' fiesta islands, that's practically every day!

The most common of these arrhythmias is atrial fibrillation (AF) that can trigger an acute ischemic event, or precipitate heart failure and increases stroke risk.

As this "inane" trigger to an MI features excessive eating and drinking, we are reminded again that in all things, moderation is best.

4} Eating too fast.



It cannot be denied that there are cultural variations in a survey of worldwide CVD risk. One of the more often cited is the discrepancy in American and European CAD figures, particularly among the French, renowned food connoisseurs and gourmands.

When the average American diet was compared with that of an average Frenchman: the French consume more fat: 4X as much butter; 60% more cheese; nearly 3X as much pork! Yet strangely, the statistics indicate that the French live longer. Some experts deny such a thing but proponents of "The French Paradox" insist that it has more to do with the more leisurely pace of life and especially the meals in the Continent. A survey of McDonald's burger joints indicated that the average American finishes his meal in around 12 minutes; in contrast the same meal will take 20 – 22 minutes to consume in Paris. Plus, that same Harvard study looked at restaurant listings in large American cities and found that on average, eat-all-you-can buffets were offered in 80% as opposed to NONE in the Paris directory.

The prevalence of the Mediterranean diet with less processed food, more of the lean meats and fish, olive oil and nuts and no snacking matters in addition to the "eat slowly, eat portions" dictum. It would seem that the common sense exhortation to take time over meals and to eat healthy is all that is behind the "French paradox".

5} Alcohol.



The real question is: does alcohol impact the heart? And if it does, is it a positive impact… Or is it negative? The data on the effect of alcohol on heart health indicate a complicated relationship.

Absolute alcohol intake in grams equals the number of units of consumed beverage times the amount of alcohol per unit of beverage.
To standardize therefore, "1" drink equals 12 fluid ounces of regular beer equals 8-9oz of malt liquor equals 5 oz table wine equals 1.5 shot of 80-proof spirits. [4]

Moderate drinking is defined as not more than 1 drink per day for women and not more than 2 drinks per day for men. A "binge" equals 4 or more drinks during a single occasion for women and 5 or more drinks/single session for men.

As in hypertension, researchers suspect a J-shaped curve to describe CAD risk and alcohol.4 Three or more drinks/day increases CAD risk and continues to raise it as the number of drinks imbibed increases. But the risk for NON-drinkers may be even higher than that for moderate drinkers and the lowest risk though is seen in those taking 1-2 drinks per day. Again, there is the caveat for moderation!

And what about those who quit drinking? The "ex" in "ex-drinker" does not save these people: ex-drinkers had higher CVD and CAD risk than teetotalers! It is believed that the higher risk in ex-drinkers may be related to higher confounding traits that are related to past alcohol use.[5]

And alcohol by itself is already related to higher mortality risk from hypertension, hemorrhagic stroke and cardiomyopathy.

Although moderate alcohol drinkers appear to have 25% less risk of an MI than teetotalers, a report published in the Lancet[6] indicated that regular alcohol drinkers are 50% more likely to develop cancer and their risk for injury is 29% - and the result is a greater total overall mortality from non-cardiovascular death!

To answer the question of the relationship between alcohol consumption, heart disease and total mortality: there are no hard and fast rules. To drink or not to drink? The glass here is both half-full and half-empty: reflecting a really complex relationship.

6} Energy drinks.



In the 1980's, an Austrian named Dietrich Mateschitz stumbled on a health tonic in Bangkok and began marketing his version in 1987.

His slogan was "Red Bull gives you wings" and the product was of course - Red Bull! Riding the success of his drink, Mr. Mateschitz became a billionaire. Red Bull promised: increased performance; increased concentration and reaction speed; improved vigilance; improved emotional status and stimulated metabolism (whatever that means).

In recent years, media reviled the slogan saying that "red bull gives you wings, all right – you gain them because you die"! All this after a rash of media stories about young people dying after using Red Bull!

Investigations revealed that the penultimate event before death included acute MI in the setting of an undiagnosed cardiomyopathy in a young basketball player; sudden cardiac standstill after consuming 8 cans equivalent to 640 grams of caffeine in 5 hours; several cans drunk and strenuous activity; and 2 reports of death after using Red Bull as a mixer with alcohol. And this is apparently true for ALL other energy drinks, not just Red Bull.

While reports of deaths may occupy the headlines, energy drinks can have non-fatal but still significant effects, notably emergency hospitalizations and medical illness that simulate some poisonings. An Australian survey noted an increase in Emergency Department admissions for conditions related to the use of energy drinks.

The manufacturers cry "Foul", maintaining that the caffeine content of a can equals a small cup of coffee at most… and that there is no cause for alarm! Or is there? There have been theories that it is not one ingredient but probably the interaction of several. Investigators look narrowly upon the combination of caffeine and taurine in the setting of almost 13 teaspoons of sugar on average within a can.

An elegant demonstration by an Australian group[7] demonstrated increased platelet aggregation and vascular dysfunction via the use of platelet aggregometers and brachial artery hyperemia index. Volunteers' platelet aggregation increased by 2- to 4-fold after ingestion of 2 cans of energy drinks while their brachial artery hyperemia index reduced: a combination that can certainly lead to an acute ischemic event. Another mechanism is the precipitation of arrhythmia.

Critics argue that the adverse effects did occur uniformly. But careful analysis of the data indicate that the effects were lethal in those who took large amounts of the energy drinks within a shorter period or within a single setting. Excessive physical exertion; mixing with alcohol; pre-existing heart conditions are the more important predictors of "red bull gives you wings… and a harp and halo".

7} Poor oral hygiene.



The health of the mouth and gums has been generally accepted as a marker for general health; studies show that oral health can be a marker of many systemic disorders, including Cardiovascular Disease.

This concept is not actually new. In the 1920's doctors already saw the higher incidence of heart disease in those with poor oral health and the response of the doctors at the turn of the century was truly inane. They began to perform wholesale tooth extractions in an effort to prevent or stop heart disease. Unfortunately, they did not achieve their objective simply because the problem was not in the poor teeth - it was in the gums! Gingivitis and periodontitis are both conditions that allow for bacterial build-up in the **gums and the toothline that in turn predisposes to bacteremia. The resultant general inflammation begins a ruinous cascade: lipid oxidation that cause macrophages to become foam cells and initiate the fatty streak, the first visible sign of atherosclerosis.**

In addition to the inflammatory cytokines, there is a release of enzymes like the metalloproteinases that also contribute to the destabilization of existing plaques and the subsequent cardiovascular event.

The proactive prevention of CVD therefore, could be as simple as brushing your teeth properly and regularly!

8} Traffic.



Manila's traffic situation (and Cebu's in the near, very near future) has steadily declined from bad to worse to horrendous! And that is with or without the famous floods! All the efforts by the dancing traffic enforcers, the tongue-in-cheek social media posts or even the unfailing Filipino sense of humor have been of no avail.

And the cost of traffic is estimated to be in the trillions – and not only from business losses. The Philippine traffic czar made a lame excuse for his shortcomings saying that "the traffic may be ruining the lives of thousands daily but at least it's not fatal" – a remark that caused outrage and opened the floodgates of social media attacks.

A German study completed in 2001 reported that people stuck in traffic for more than an hour were 3X more likely to suffer a heart attack! In that survey, they looked at 691 survivors of an MI and noted that one out of every 12 MI cases were linked to traffic.

And a traffic jam increases MI risk regardless of type of transport. The risk is 2.6X for people stuck in cars; 3.1X for those in buses; and a whopping 3.9X for those on bicycles! The link is so immediate, it can be seen within an hour of being stuck in a jam.

And what causes it? Particulates from soot in exhaust, especially diesel engines, were blamed in the study! Stress also probably has a role but it was this factor that was concluded to be most important. This makes air pollution the culprit.

In predisposed individuals, short-term exposure to air pollution will raise risk not only for MI but for arrhythmia as well! And the mechanistic effects of air pollution follow the pathway through oxidative stress and inflammation … similar to the mechanisms behind poor oral hygiene, skipping breakfast and eating heavily.

A whole spectrum of CVD can occur according to the particulate size of the air pollutants, and it is the emission from diesel engines that are particularly harmful. So, in the end, just as all roads in Manila (and Cebu) lead to traffic, so do all roads lead to the heart, and all traffic jams CAN lead to a heart attack! Contrary to what the traffic authority claimed, traffic CAN be fatal!

9} Manny Pacquiao.



The first and only eight-division world boxing champion, achieving the championship in 4 weight categories, the one and only Manny Pacquiao is also known as the "Pambansang Kamao". And when he fights, everything stops, including crime and the long-running Muslim insurgency in the south. Fans will die for their hero! Literally. It may be stress, the anxiety and excitement because emotions run high when our Manny enters the ring.

The tension of a Pacquiao fight is the cue for NE rising that leads to rising BP and risk of a heart attack. In his nationally syndicated column, Dr. Willie Ong wrote some guidelines to be followed before watching a Pacquiao fight that included getting a check-up and avoiding the live telecast if one has a pre-existing heart condition. As our new Senator himself advised: "just watch the replay, you know".

10} Second- or third-hand smoking.



Indirect exposure may be as harmful as the actual thing and a smoking partner may be just as lethal as a smoking gun. When it comes to smoking, it IS NOT good to give, nor is it any better to receive because second hand smoke kills!

A good number of deaths related to smoking (up to 8%) occur in those who are exposed only indirectly8. The risk for heart disease rises by 25-30% from chronic exposure to smoking in home or workplace. In a nutshell… there is NO SAFE LEVEL FOR 2ND HAND SMOKE and even a little is harmful to health.

Walls cannot protect the non-smoker when there is a smoker in the house; or from a smoker in the family car. The pervasive effect of smoke lingers and spreads through even the most open-windowed, closed-door environments. And it is the children – the children – whose cardiovascular disease risk rises with chronic exposure to a cigarette-smoking parent or guardian[9]. In a word: non-smokers, UNITE! No one should have to die because of someone else's bad habit.

11} Sex.



Can sex precipitate a heart attack?

This is a famous movie cliche: the lovers meet for a romantic interlude in a secluded hideaway and the guy dies during sex. True story?

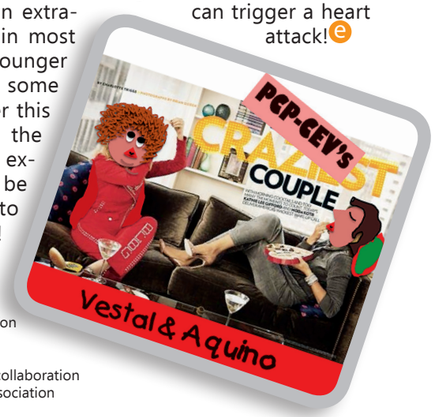
A meta-analysis[10] of 4 studies showed that men in their 50s and 60s have a 2.7 increased relative risk for MI during periods when they are actively engaging in sex compared to periods when they aren't.

The good news is that actually, less than 1% of MI are induced during sex and the consensus is that the benefits of sex far, far outweigh any potential risk of dying from MI10. An American Heart Association-sponsored study[10] did a review of 100 studies with a total of 5559 autopsied cases of sudden cardiac death (SCD).

Around 0.6% were Sudden Cardiac Death that occurred during sexual intercourse of which 82 - 93% were men; and 75% were in an extramarital situation - in most cases, with a younger partner! There are some who would consider this poetic justice and the conclusion is that extramarital sex may be slightly more likely to cause heart attacks!

Public education sites take notice and include the caveat that furtive encounters and extramarital partners could be fatal for men recovering from a cardiac event[11]! The added stress of an illicit sexual encounter can act as a trigger to increase BP, raise the HR and trigger a dysrhythmia. So it certainly looks like the formula for "dying in the act" is a middle-aged man + recent MI + illicit sex - and the sum of all of this is SCD. In addition to which, if the unfaithful bastard survives his illicit affair, he still risks death if caught by his legitimate partner!

Upon review of the evidence behind these contenders for a revised coronary risk checklist, it becomes clear that a new description is needed for our top inane things that could break your heart. These situations no longer deserve to be called "inane". From "inane" to "profane" - they are very legitimate conditions that can trigger a heart attack!



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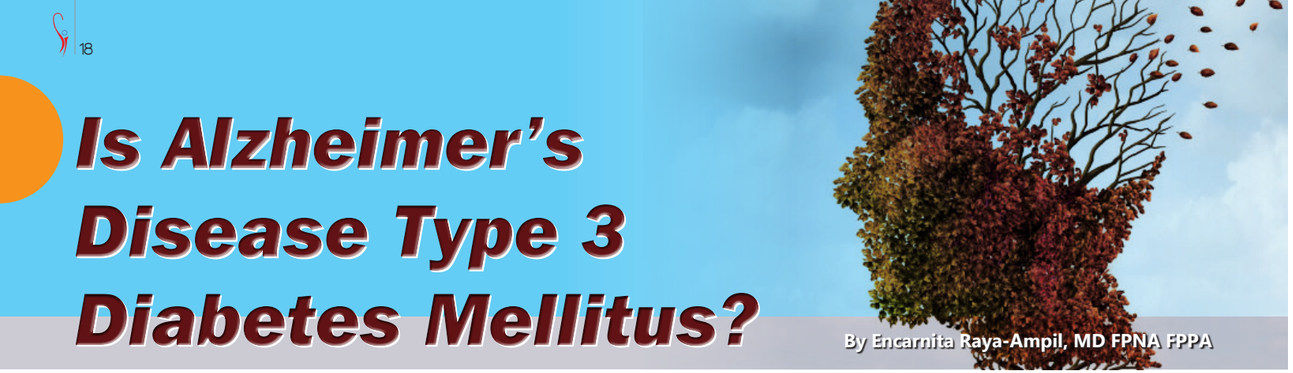
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Is Alzheimer's Disease Type 3 Diabetes Mellitus?

By Encarnita Raya-Ampil, MD FPNA FPPA

Alzheimer's Disease (AD) is a debilitating neurodegenerative disease that looms as an epidemic as the aging population worldwide grows exponentially. It has distinct neuropathological findings, discovered in 1906 in a patient who suffered from this condition[1]. Neurofibrillary tangles and amyloid plaques are the cardinal lesions of this neurodegenerative process[2]. There have since been numerous discoveries and hypotheses on various mechanisms that lead to the formation of these two hallmarks which ultimately cause cell death. Beneath the atrophy of the brain, a molecular cascade of destructive processes abound that leads to the conglomeration of manifestations of this condition.

Risk factors associated with AD include age and vascular risk factors, such as hypertension, smoking, hypercholesterolemia and type 2 diabetes mellitus (DM)[3-7]. Studies have strongly correlated the presence of elevated blood glucose, impaired insulin sensitivity and T2DM in causing cognitive decline[8]. T2DM was found to confer a 65% increased risk of developing AD and was associated with lower levels of global cognition[9]. With the rise in the prevalence of diabetes, numerous studies have focused on the link between these two disorders.

AD has been proposed to be a syndrome that is similar to DM due to shared molecular etiopathogenesis. Thus, the term Type 3 DM emerged to refer to Alzheimer's Disease as a form of diabetes that involves primarily the brain. In Type 1 DM, there is insulin deficiency due to islet cell destruction while in Type 2 DM, there is hyperglycemia and hyperinsulinemia due to insulin resistance. Type 3 DM is used to describe the presence of impaired insulin signalling in the brain, specifically due to insulin resistance and an insulin deficiency state[10].

Diabetes mellitus was found to influence cognitive impairment though a direct effect on the structural integrity of the brain and mechanisms that influence plaque and tangle formation. DM is an established risk factor for stroke. Vascular lesions in the brain have been recognized to lower the threshold of clinical expression of AD[11]. Type 2 DM increased the risk of lacunes/infarcts[12]. However, DM may have a deeper role in the pathogenesis of AD than this since it also increased the risk of hippocampal atrophy, one of the early findings in AD. The duration and progression of DM increased the severity not only of lacunes but also hippocampal atrophy[12]. Autopsy findings confirmed the association of DM with the presence of hippocampal NFTs and neuritic plaques[13], the neurodegenerative findings in AD.

Insulin may have an important role in cognitive processing, considering the strategic location of its receptors in the cortical regions, entorhinal cortex and hippocampus[14]. Insulin influences synaptic transmission, stimulate neuronal protein synthesis and have neuroprotective effects, especially against oxidative stress. Even though the CNS is capable of de novo synthesis of insulin, its primary source in the brain is from pancreatic β cells[14]. Insulin passes through the blood-brain barrier and binds to its receptor,



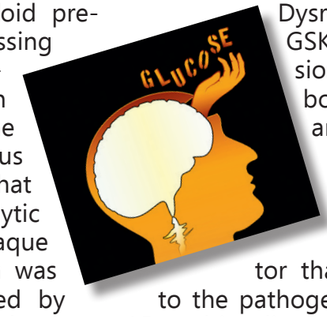
instigating a signalling cascade that is similar to that in the peripheral tissues. Dysregulation of the insulin signalling pathway was found to be present in AD, a finding that supports the common pathogenesis in AD and DM. Administration of insulin to correct the deficiency in AD was found to improve cognition[15].

Early in the disease process of AD, impaired glucose utilization and energy metabolism are already present which support the impairment in the insulin signalling pathway. Insulin resistance and insulin deficiency in the brain were found to exist in AD[15]. Expression of insulin was found to be inversely correlated with the Braak staging in AD, with higher stage corresponding to a more severe state of AD. A study showed an 80% decline in insulin levels in patients with AD compared to normal subjects[15]. Alteration in the insulin signalling pathway in patients with hyperinsulinemia is through down regulation of insulin receptors (IR) in the blood brain barrier and eventual decrease in insulin transport in the CNS. Thus, chronic hyperinsulinemia can lead to poor insulin transport to the brain and subsequent insulin deficiency which is seen in AD.



Insulin and Insulin Growth Factor-1 (IGF-1) belong to the same family of receptor tyrosine kinases[16] that stimulate similar signalling pathways that regulate normal cellular functions. However, insulin has higher affinity to insulin receptors than IGF-1. Increasing Braak stages in AD was associated with decrease in the expression of genes coding for insulin and IGF-1 and their receptors[17]. Low levels of IGF-1 is also associated with diabetes[18].

The β-amyloid plaque which are end products of amyloid precursor protein processing cause neurodegeneration in AD. APP is an integral transmembrane protein with numerous physiologic functions that is subjected to proteolytic cleavage. β-amyloid plaque formation in the brain was found to be influenced by the insulin signalling pathway so that dysfunction in this cascade has the potential of promoting its extracellular accumulation. Insulin and beta-amyloid protein share the same mechanism of clearance from the CNS. Insulin degrading enzyme (IDE) acts on both insulin and β-amlyoid, but preferentially degrades insulin. With increased levels of insulin, seen in DM, β-amyloid is degraded less and clearance from the brain is affected[19]. Gene variations in the IDE that lead to either its deficiency or preferential metabolism of insulin than β-amyloid were found to be associated with the clinical symptoms of AD[20].



Tau is a neuronal microtubule associated protein with essential roles in regulating microtubule function and axonal transport. Its normal functioning is modulated by phosphorylation. Glycogen Synthase Kinase- 3β (GSK- 3β) is an enzyme that regulates tau phosphorylation. Heightened activity of GSK- 3β causes hyperphosporylation of tau and formation of neurofibrillary tangles (NFTs). Insulin signalling pathway involves this enzyme, particularly in the PI3K/Akt/GSK-3β pathway. Insulin and IGF-1 modulate GSK-3β activity. Both induce inhibition of GSK-3, which leads to tau dephosphorylation and increased microtubule binding of tau16. Dysregulation of GSK-3β expression is seen in both diabetes and AD[21].

Oxidative stress is a common factor that contributes to the pathogenesis of both AD and insulin resistance. It activates certain signalling pathways that enhances β-amyloid production from APP through the gamma secretase enzyme and NFT formation through tau hyperphosphorylation[20]. Oxidative stress may activate Forkhead box O (FoxO) proteins. Insulin resistance may also cause increase in FoxO activity, leading to hyperglycemia and further promoting oxidative stress. The FoxO family of transcription factors have important roles in immune response, regulation of metabolism, response to stress and apoptosis. Increase in FoxO protein transcriptional activity leads to production of reactive oxygen species (ROS) and apoptosis. There is also promotion of β-amyloid production and tau hyperphosphorylation. Thus, the cycle of oxidative stress, presence of insulin resistance and eventual heightened activity of FoxO proteins lead to neurodegenerative changes[22]. Oxidative stress also promotes Advanced Glycation EndProducts (AGEs) accumulation. AGEs are impli-

cated in the pathogenesis of AD, modifying amyloid plaques and NFTs [23]. DM promotes formation of AGEs, thereby linking this condition with AD[24].

Insulin has a role in synaptic signalling by stimulating choline acetyltransferase gene expression, an enzyme involved in acetylcholine synthesis. This neurotransmitter has an important role in learning and memory. Decline in cholinergic activity is established in AD and has clear association with its various

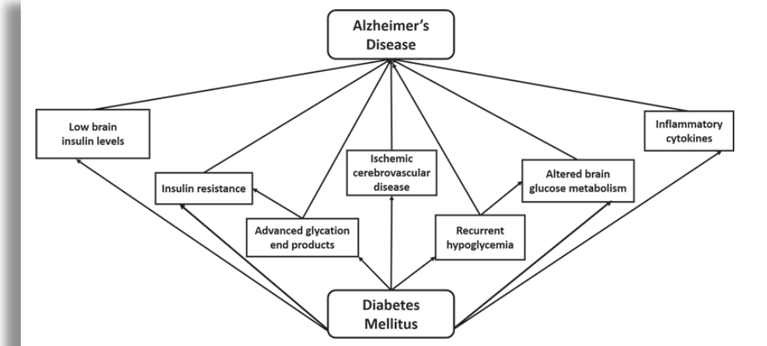


Figure1. Possible Mechanisms of Diabetes Causing Alzheimer's Disease25

symptoms. States of low insulin levels and insulin resistance can lead to low acetylcholine levels[10,17].

AD may be considered a neuroendocrine disorder due to its overlap with the underlying molecular and biochemical changes seen in DM (see Figure1). Epidemiological studies have likewise linked the two conditions, with DM and its predisposing factors increasing the risk of having AD.

Despite the overlap, AD remains a distinct neurodegenerative disorder that cannot be regarded simply as a form of diabetes. DM may increase the risk of AD but this is not absolute. Not all patients with DM develop AD. The Baltimore Longitudinal Study of Aging did not find an association between a clinical diagnosis of dementia and hyperglycemia or hyperinsulinemia[26]. Diabetes was not found to be associated with incident AD in the Canadian Study of Health and Aging[27]. There was also no association between lifetime measures of glucose homeostasis and presence of AD pathology as determined by autopsy and Carbon 11–Labeled Pittsburgh Compound B Scanning (11C-PiB)[26]. Thus, formation of Beta-amyloid plaques and NFTs is not solely due to the underlying mechanisms of DM. Various studies of antidiabetic drugs in patients with AD were done[28]. These included insulin, metformin, pioglitazone and rosiglitazone. Some yielded positive effects on cognitive performance in AD patients but did not[28]. Large scale clinical trials are necessary to further establish the role of antidiabetic drugs in AD.

Both AD and DM are brought about by various factors and as such, should be considered as separate, clinically well-defined conditions. Based on evidences, however, control of diabetes mellitus is essential to prevent consequences that aggravate Alzheimer's Disease.

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BRAIN EXERCISES

By Dr. Marie Yvette Rosales-Amante

It's all too familiar: One evening, on the way home from work, I pass by the supermarket to buy eight ingredients in order to attempt to make a somewhat special dinner. I don't make a list because I am confident that I will remember the items I need, and I know the aisles by heart. Do I remember everything? Or do I forget one vital ingredient?



It all depends on my "working memory." Working memory is a type of short-term memory that allows us to store and use information we see, hear, or sense. So if my husband says, please pay the phone bills today and call the plumber and pick up the kids and pass by the pet store to buy pet food, and on the way home please buy toilet paper, how well can I store all this information to be able to execute everything?

Do you know that there are many existing computer-based brain exercises to improve working memory? For example, the "To-do-list training " of BrainHQ targets this kind of memory. In this brain exercise, the brain hears a set of instructions, and then uses its memory of those instructions to follow them in order. The instructions get longer and more complex, making bigger demands on the neurons in the forebrain.

There 's a plethora of brain exercises in the internet, and of course they are not free. Do they work? What's the data on these brain exercises?



In 2009, findings from the Improvement in Memory Plasticity-Based Adaptive Cognitive Training (IMPACT) study showed that 77% of participants who completed an 8-week Brain Fitness Program reported benefits in everyday life activities such as remembering shopping lists.

To evaluate the efficacy of the Brain Fitness Program versus an active control program that included watching educational videos, researchers randomized 487 community-dwelling adults over the age of 65 years who were not cognitively impaired. Participants followed a training program for 1 hour a day, 5 days a week, for 8 weeks, for a total of 40 hours. The primary outcome was a composite score from the Repeatable Battery for Assessment of Neuropsychological Status (RBANS) auditory memory/attention subtests. Secondary outcomes included processing speed, word-list recall, and participant-reported outcomes. The program's premise was: that there is a decline in memory as we get older not because of loss of hearing or vision, but because as we get older, our brains become less efficient at processing information from the senses.

Participants randomized to the active treatment performed 6 computerized exercises of increasing difficulty that were designed to improve speed and accuracy of processing auditory information. Participants randomized to the active control arm watched educational videos about history, art, and literature.

At 8 weeks, subjects who followed the study's brain-training program processed information such as speech at a 131% faster rate than subjects in the control group. On average, individuals in the experimental group improved their RBANS composite auditory memory/attention score by 3.9 points, while the participants in the control group improved this score by 1.8 points.

In addition, the researchers saw gains of 4% in memory scores in the brain-exercise group, versus 2 % in the educational video group. About 3 out of 4 participants who followed the brain-exercise program reported improvements in

everyday activities such as remembering names or following conversations in noisy restaurants.

The IMPACT Study was funded by Posit Science Corporation through research grants to the Mayo Clinic Foundation and the University of Southern California. Posit Science Corporation developed the Brain Fitness training program used in the study and holds the patent for and a proprietary interest in this software.

IMPACT demonstrated that both trained and some untrained cognitive abilities can improve after two months of structured sensory input training. Critics of the study say that since the control group also improved, albeit to a smaller extent, this suggests that even watching videos (such as The History Channel) may help with cognitive function!

Other studies have also given similar equivocal data on brain exercises, which is why there are a lot of questions on its efficacy. With yearly subscriptions running as much as $100-150, an expanding business of commercial brain games promises to be able to improve memory, processing speed, and even, in some cases, to prevent Alzheimer's disease. Many companies, such as Lumosity and Cogmed, describe their games as backed by solid scientific evidence and prominently note that prominent neuroscientists helped design the programs. But the cited research is often "only tangentially related to the scientific claims of the company, and to the games they sell," according to the statement released in 2014 by the Stanford Center on Longevity in Palo Alto, California, and the Max Planck Institute for Human Development in Berlin. Signed by around 70 cognitive psychologists and neuroscientists, the letter was in response to heavy marketing by companies touting the benefits of their programs based on scant scientific data.

Until very recently, in July 2016, preliminary results of a large U.S. trial show promise for the brain exercise believers. The recently released results show that after 10 years, a computerized brain-training program may cut the risk of dementia among healthy people by 48 percent.

These findings, presented at the Alzheimer's Association International Conference in Toronto, are the first to show that any kind of intervention could delay the development of dementia in normal, healthy adults.

Up to this current time, cognitive psychologists and neuroscientists have largely rejected evidence that computer-based cognitive-training software or "brain games" have any effect on cognitive function. The new findings would be quite promising if they hold up through peer review and publication in a scientific journal, said Dr. John King, an expert in social research at the National Institute of Aging. The institute is part of the National Institutes of Health, which funded the study. Dr. King worked on "Active," the original clinical trial on which the new analysis is based.

The "Active" study examined the effects of cognitive training programs on 2,785 healthy older adults. The study participants were divided into three groups: one group received training for memory improvement, one for reasoning, and one with computerized training in speed-of-processing.

Participants had 10 one-hour training sessions conducted in a classroom setting over five weeks. Some received four additional sessions one year after the original training, and four more two years after that.

The study measured cognitive and functional changes immediately and at one, two, three, five and ten years after the training to see if it affected how participants performed daily tasks. Results of that study published in 2014, found modest benefits in the reasoning and speed-of-processing groups, but not memory.

Dr. Jerri Edwards, from the University of South Florida, did the secondary analysis of the 10-year data, looking at the time it took individuals to develop dementia. She found that the group that did speed training showed 33 percent less risk of dementia relative to the control group, while the memory and the reasoning interventions offered no such benefit.

People who completed 11 or more speed training sessions were at 48 percent less risk for developing dementia over the 10 years of the study, Dr. Edwards said. She had been associated with Posit Science, and the program in the study is now incorporated in Posit Science's BrainHQ.com brain training program.

Dr. King said the training offered in the study was slightly different from the current available Posit Science offering and that it was unclear whether speed training would help people who are already at risk for dementia. Most people think these recent results are promising, but agree that we all still have to wait until after the paper is reviewed.

We can probably safely conclude that there is no real harm from these computer brain games, except for a moderate dent on the wallet and time away from outdoor activities. There may be some real benefit, pending more studies in the future.

In the meantime, what is truly proven to improve brain health remains: eat your vegetables and fruits, exercise, socialize, and try something new everyday!



In Memoriam:



Ma. Imelda Q. Cardino+

FEBRUARY 2, 1952 - APRIL 8, 2016

Prevention and treatment of diabetes will never be complete without medical nutrition therapy. Diabetes Philippines, in its quest to reduce the diabetes burden, holds numerous workshops where experts in diet and nutrition share expertise to health care providers across the country. In any DP activity involving diabetes and nutrition, we always appreciate the contributions of Ms. Maria Imelda Quintero Cardino whom we fondly call Ate Emy.



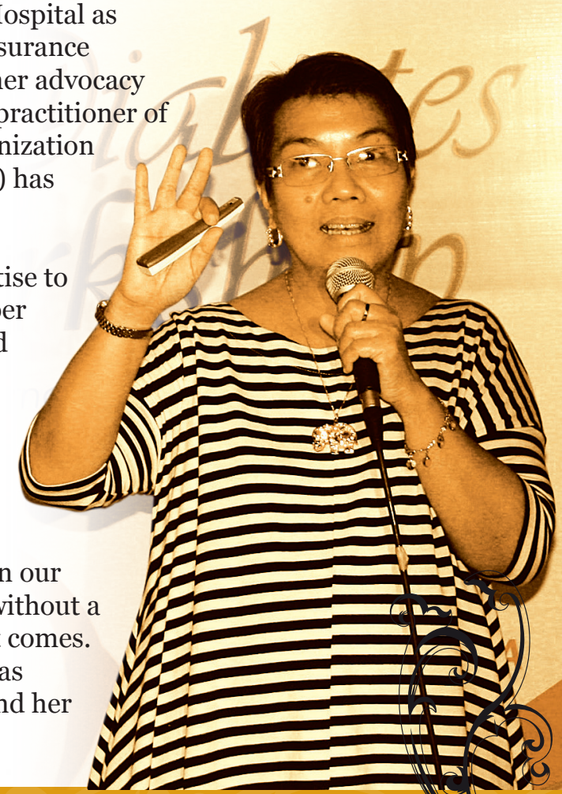
Young Ate Emy earned her Bachelor of Science in Foods and Nutrition in 1972 at the University of Santo Tomas, Institute of Nutrition, College of Home Economics. Her passion was obvious as she graduated Cum Laude. She continued pursuing her course and further earned Master of Science in Foods and Nutrition, Major in Hospital Dietetics in 1983 at the University of the Philippines, College of Home Economics. She continued studying and further earned a Post-Baccalaureate Diploma Program in Training Development and Management in 2002 at the De La Salle University, College of St Benilde.

Ate Emy worked at the Makati Medical Center for many decades where she was very well loved. In this institution, she served as Training Officer of the Industrial Relations Department, Area Manager of the Diabetes Center, Business Operations Officer of the Business Operations and Development Department, and Accreditation Manager/Compliance Officer of Total Quality Services Department.

Besides working at MMC, she also worked at the Nichols Airport Hotel as Quality Assurance Consultant and Protacio Hospital as both Assistant Hospital Administrator and Quality Assurance Consultant. Her professional life has been driven by her advocacy in improving health in our country. She loves being a practitioner of medical nutrition therapy. Even her professional organization (Nutritionist-Dietitians'Association of the Philippines) has been much blessed by her lifetime membership.

Most of all, Ate Emy gave much of her time and expertise to the goals of Diabetes Philippines. She served as member of the Board of Directors for several terms. She offered invaluable advice and support that made DP what it is today. She delivered scholarly lectures to both medical professionals and lay persons without hesitation. Her latest assignment was to help the completion of the new DP building.

It is truly sad and unfortunate that Ate Emy had to join our Lord this early. Her battle with the big C did not end without a fight. But we do have to heed to the Lord's call when it comes. We are one with her husband and children, who she has raised so well. We will always be grateful for her life and her gift of friendship.



Maria Imelda Q. Cardino, RND
DP, Board of Directors 2012-2014, 2014-2016

- Dr Richard Elwyn Fernando

NEW KID ON THE BLOCK

DP Oriental Mindoro Chapter

For several years, Oriental Mindoro participated in DP activities through DP Batangas chapter.

May 26, 2016 marks the realization of a long time dream, the creation of the Diabetes Philippines Oriental Mindoro Chapter.

The officers and members of the board of the DP OrMin Chapter were each chosen to fulfill a specific role to further the mission of this newly formed chapter. They compose a heterogenous group of professionals from both the private and government sector in the province of Oriental Mindoro.

The officers & members of the board of this newly formed chapter were methodically selected from a heterogeneous group of professionals who are heads of major health-related organizations in the province as well as holders of key government positions on health. This mixture was specifically chosen to provide much needed authority in reaching out to a vast group of doctors & allied health professionals in the entire province of Oriental Mindoro subsequently making dissemination & participation requirements in various activities easily coordinated & done. They are:

President	**Dr. Jocelyn Muli-Marcos**
Vice President	**Dr. Christia Goco- Malapitan**
Secretary	**Dr. Liza Llanto** *(in charge of the MHOs of entire Oriental Mindoro)*
Asst. Secretary	**Dr. Ambrosio Jumangit**
Treasurer	**Dr. Teresita Nieva Bolor** *(4th time PMA Icasiano awardee as best treasurer)*
Asst. Treasurer	**Dr. Jonathan Jumig** *(current treasurer, Oriental Mindoro Medical Society)*



NEW KID ON THE BLOCK

Ms Leden Florido as Inducting Officer



NEW KID ON THE BLOCK

Ceremonial Turnover of the DP OrMin Banner



NEW KID ON THE BLOCK

President Dr. Jocelyn Muli-Marcos with the newly inducted officers and board of directors

Board of Directors

Dr. Marpheo Marasigan - *PHO I, Chief of Hosp Or. Mindoro Provincial Hospital*
Dr. Emmanuel Barretto - *Past Pres of PAFP Ormin chapter*
Dr. Ma. Cristina Gonzales - *President, Oriental Mindoro Medical Society*
Dr. Teresita Morales - *Internist from Roxas Oriental Mindoro & in charge of members from South of Oriental Mindoro*
Mrs. Merceditas Virola, RND - *dietitian II of Oriental Mindoro Provincial Hospital*
Mr. Paul Leynes, RN - *President, Phil Nurses Association, OrMin, in charge of nurses in the gov't service*
Mrs. Zendella De Guzman, RN - *Chief Nurse, MMG Hosp, in charge of nurses in private institutions*
Mrs. Irene Fidelin - *lay representative, in charge of all diabetic patients who will form part of our organization*



NEW KID ON THE BLOCK



NEW KID ON THE BLOCK



NEW KID ON THE BLOCK



NEW KID ON THE BLOCK

The Induction Ceremony was held at Filipiniana Hotel on May 26, 2016, with DP Board of Director Ms. Leyden Florido as inducting officer. The Ceremonial Turnover of DP OrMin Banner was followed by the Oath of Membership of the newly-recruited members of DP ORMin Chapter - 86 in all!

A videotaped heart-warming welcome message from DP President Dr. Rima Tan was presented, understandably unable to attend due to a prior commitment.

Sincerest gratitude to Dr. Mandy Legaspi, PHO II, President of Association of PHO of the Philippines, for accommodating our request to reschedule an IDOTS MHO seminar to allow MHO personnel to attend on "official business" this ISDFI Diabetes Workshop.

Sincere appreciation to Dr. Leilani Baldeviso, for being a dynamic emcee during the induction rites & to our ISDFI faculties, Drs. Marcelo Lim, Ernesto Ang, Rowena Libed, Olive Quizon, Mrs. Oly dela Cruz, Nymla & our DP secretaries, Ruth and Julie, for your presence & assistance during the induction ceremonies.

Lastly, our wholehearted thanks to Dr. Aracelli Panelo for allowing us to use the ISDFI Diabetes Workshop Fellowship Night for the induction of this new set of enthusiastic & hardworking Officers & Board of DP Oriental Mindoro Chapter.

We are committed to the mission & vision of providing the best diabetic care for our kababayans afflicted with this metabolic condition.

Thank you very much!

Dr. Jocelyn Muli-Marcos
President, DP OrMin Chapter

Together, we are building the DREAM!



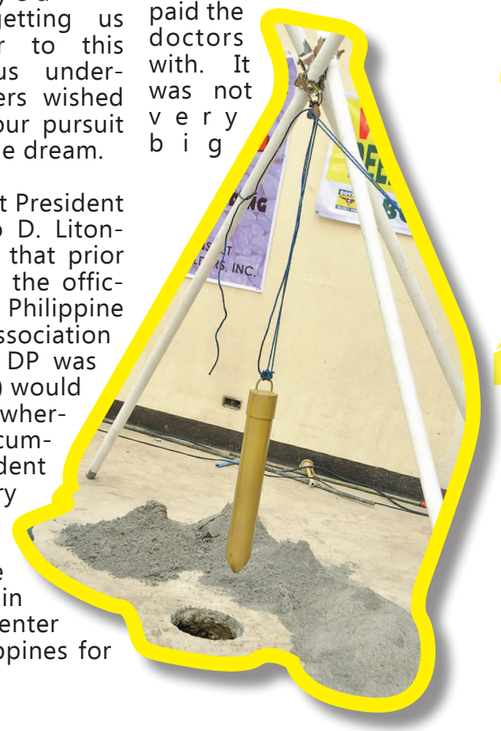


March 10, 2016 marked a milestone in the history of Diabetes Philippines – the breaking of ground for the DP Building at 661 Boni Avenue corner Ligaya Street in Mandaluyong. Present at this historic event were several past presidents and the current board of directors of DP as well as Architect Mark Joseph Siapno, who designed the building and Architect Bibiano Luzande, Jr. representing the contractor, Consnet Builders, Inc.

In her welcoming remarks, President Dr. Rima Tan reminded everyone that the building will not only serve as DP's home but will also be utilized as an education center for those involved in diabetes care.

To fully appreciate the historical significance that DP as an organization is undertaking in erecting its own building, past presidents of DP were invited to share a few words of wisdom. While some reminded us of the roles each played in getting us closer to this momentous undertaking, others wished us well in our pursuit of a longtime dream.

First up, Past President Dr. Augusto D. Litonjua recalled that prior to his term, the offices of the Philippine Diabetes Association (or PDA as DP was known then) would relocate to wherever the incumbent president or secretary was situated. He recounts, "We had a room in the Lung Center of the Philippines for about 1 or 1½ years until we got wind that a group of doctors in Polymedic was selling their unit at Facilities Center. We had no money then so I requested all those pharmaceutical companies who were with us to give me 2 years of contribution to the society and that's what we paid the doctors with. It was not very big



compared to what you are spending now - P1.1 million but at the time it was like 10 to 15 million at this time. So we got that and my son, who is an architect, renovated it for free. So that should be part of the history of PDA. As they say everything that goes around must come to a stop and I think that today we have come to that stop... So congratulations to the present board of directors, I shall look forward to being one of those who will cut the ribbon for the new building."



Next, Dr. Tommy S. Ty Willing corroborated Dr. Litonjua's statements and added that the year was 1991 when PDA acquired its first permanent home at the Facilities Center. During that time, the area was sufficient for the society's activities. But as the membership and staff of PDA grew, there was a need to find a larger office space. Around 2008, during his presidency, Dr. Tommy actively began the search for a plot of land with a clean title in which to construct a building. At that time, there were sufficient funds for such an endeavor. Towards the end of his term, and together with then incoming president Dr. Susan Yu-Gan, they found the lot at Boni Avenue and DP acquired the title of its future home. Dr. Tommy ends his account: "So finally today, umpisahan na ang pagtayo ng susunod na tahanan ng Diabetes Philippines. Hopefully magampanan nito ang mga nakaatas na tungkulin na dapat gawin ng ating samahan. Maraming salamat sa pagpunta ninyo. Magkikita-kita ulit tayo pagtapos na ang ating gusaling ito."







Past Presidents of Diabetes Philippines
- Dr. Augusto D. Litonjua
- Dr. Tommy S. Ty Willing
- Dr. Editha Arceo-Dalisay

Another of DP's past presidents, Dr. Editha Arceo-Dalisay came all the way from Singapore to grace this event. There were already considerations for constructing an office building even during her term, but as she aptly puts it, "This used to be a dream and the present board of directors will make it a reality. So I would like to congratulate the board. With the blessing of the new building, I hope that the advocacy of Diabetes Philippines will continue to grow."

We will be sure to invite all of you back for the inauguration of the completed building.

Dr. Richard Elwin Fernando closes the program by recognizing that the presence of these past presidents is a blessing in itself on such an important day and for such a difficult task that is yet to come. He adds, "The construction of this building is a testament of Diabetes Philippines through its history of more than 50 years. It is also the evidence

of commitment to the very advocacy of the organization. Join me in congratulating DP on its leadership carrying it to where it is today."

And with that, under a scorching afternoon sun, the actual groundbreaking ceremonies began. Dr. Agnes Cruz first called on pastor Bro. Ace Flores for the blessing and prayer. Next was the burying of the time capsule. Then, all the past presidents, current officers, DP staff and other guests donned their hard-hats, picked up their ceremonial spades and took turns shoveling the first scoops of dirt into what would be the foundations of the future Diabetes Philippines Building!









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References and full prescribing information available upon request.

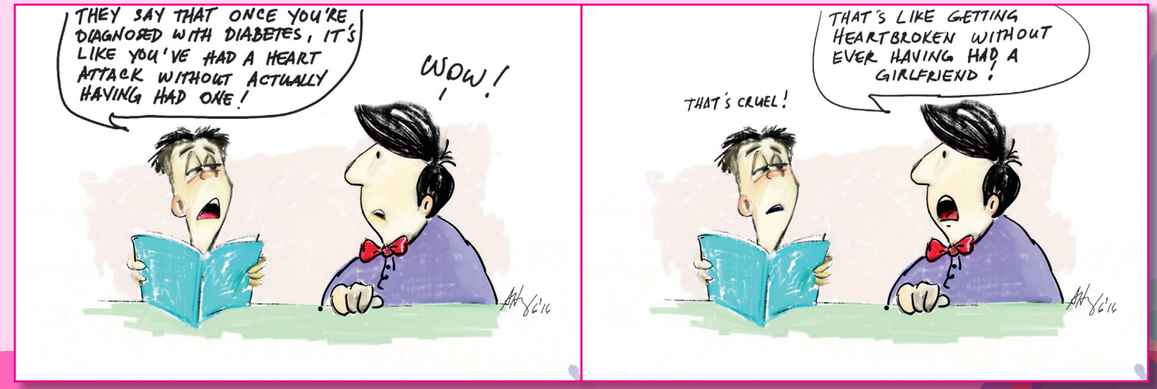
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By: Dr. Allan Hernandez



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on the Move



Outstanding Healthy Lifestyle Advocacy Awards (OHLAA) of the Department of Health (DOH)

Outstanding Healthy Lifestyle Advocacy Awards (OHLAA) is a program of Department of Health (DOH) that recognize various groups and organization that advocate for a healthy lifestyle in their respective community or to a wider population. In addition, the award also gives recognition to city and municipal government units, government, non-government and professional organizations, business/commercial establishments and academic institutions for their exemplary work in advocating preventive measures against non-communicable diseases (NCD).

Leyden V. Florido, MAN, RN one of the board of director of Diabetes Philippines *(2nd to the right)* represented DP to this activity. Diabetes Philippines is a member of the Steering Committee of Philippine Coalition for the Prevention and Control of Non Communicable Diseases (PCPCNCD).







DP participation for PCP Convention on May 1, 2016 Sunday 2:00 – 3:00 pm will be a lecture on:
Ambulatory Medicine: Assessing the Adequacy of Treatment in Diabetics
Lecturer: Rima T. Tan, MD FPCP
Chair: Evangeline F. Fabian, MD FPCP
Moderator: Agnes T. Cruz, MD FPCP





56th Diabetes Workshop & 21st Diabetes Forum
Harvest Hotel, Cabanatuan City
February 12, 2016 (Friday)











Diabetes Philippines Cabanatuan Lay Forum
Nueva Ecija Doctors Hospital
Maharlika Highway, Cabanatuan City













WHD 2016

World Health Day (WHD) is celebrated on 7 April to mark the anniversary of the founding of the World Health Organization (WHO) in 1948. Each year, a theme is selected to highlight a priority area of public health concern, and this year's theme is "diabetes".

WHO/WPRO conducts a one-and-a-half day event on 6-7 April 2016 in Manila, Philippines. A networking meeting on the first day (6 April 2016), with WHO Collaborating Centers that work on not only diabetes but also on the risk factors and associated diseases linked to diabetes, international/ academic societies (including NCD Alliance, International Diabetes Federation, World Organization of Family Doctors, and others), and patient support groups. On the second day, which will be World Health Day (7 April 2016), a high level half-day event is conducted. This one-and-a-half day meeting is geared toward the development of independent networks of experts and institutions to facilitate exchange of information and share lessons and best practices.

Dr. Rima T. Tan, President of Diabetes Philippines and Ms. Leyden V. Florido, Board of Director of Diabetes Philippines represented DP in this meeting.





Diabetes Philippines has demonstrated a strong commitment in finding effective prevention and providing excellent diabetes care in the Philippines.

Given our strong commitment, DP in partnership with Natrapharm celebrates World Health Day with a theme, “Beat Diabetes”.

DP provided a free diabetes screening to all Innodata employees, followed by a free consultation once screening results are released.





2016 NATIONAL HYPERTENSION AWARENESS MONTH CELEBRATION (MAY 2016)
KICK OFF CELEBRATION: MAY 21, 2016,SATURDAY
7:00 a.m. – 12:00 noon,
DAPITAN SPORTS COMPLEX, Instruccion St., Samplaoc, Manila

The World Hypertension Day (WHD), which was initiated by the World Hypertension League (WHL) in 2005 has been celebrated every 17th of May of each year. It is an international event during which public activities take place around the world to highlight the preventable stroke, heart and kidney diseases caused by high blood pressure among others.

Diabetes Philippines conducts a free diabetes screening and distributes Information, Education and Communication materials.







DP participated in the "APEC Workshop on Strategies to Address Non-communicable Diseases through Science, Technology and Innovation: Nutrigenomics Approach" at Tagaytay City, Philippines last June 15-16, 2016. Ms. Jennina A. Duatin, RND is our representative to this workshop.

This workshop is organized by the Food and Nutrition Research Institute of the Department of Science and Technology (DOST-FNRI) as a commitment for the Policy Partnership in Science, Technology and Innovation (PPSTI) Forum of the Asia Pacific Economic Cooperation (APEC).

The workshop will be a platform for participants from APEC member economies to discuss the current situation, challenges and advancements in Nutritional Genomics as an instrument to address the increasing incidence of non-communicable diseases (NCDs) in the APEC region. It also entails substantive sessions and group discussions, providing the participants the opportunity to focus on specific areas from their own perspectives and national experiences in Nutrigenomics.

The main conclusion of the workshop is the creation of a collaborative research network in Nutrigenomics in Asia and the Pacific and is expected to be considered and adopted by the participants.



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VILDAGLIPTIN + METFORMIN
PROGLINMET®
50 mg / 500 mg Tablet
50 mg/ 850 mg Tablet
50 mg/ 1,000 mg Tablet
Oral Antidiabetic Drug

Full product information available upon request.

Products of LRI. A division of Unilab.
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GLICLAZIDE

DIAMICRON® MR 60

Scored Tablets

SHARE THE GIFTS

Efficacy & Safety

Renal Protection

Cardiovascular Safety

Beta-Cell Protection



Up to 2 tablets at breakfast

in most patients



1. The ADVANCE Collaborative group. N Eng J Med 2008; 358: 2560-2572. 2. Perkovic V et al. kidney Int. 2013 Jan. Advance Online Publication. 3. Turnbull FM et al. Diabetologia (2009) 52: 2288-2298. 4. Sawada F et al. Metabolism Clinical and Experimental 57 (2008) 1038-1045.

COMPOSITION: Diamicron MR 60 mg, modified release tablet containing 60 mg of gliclazide, contains lactose as an excipient. INDICATION: Non-insulin-dependent diabetes (type 2) in adults, in association with dietary measures and with exercise, when these measures alone are not sufficient. DOSAGE AND ADMINISTRATION: One half to 2 tablets per day i.e. from 30 to 120 mg taken orally as a single intake at breakfast time, including in elderly patients and those with mild to moderate renal insufficiency with careful patient monitoring. One tablet of Diamicron MR 60 mg is equivalent to 2 tablets of Diamicron MR 30 mg. The breakability of Diamicron MR 60 mg enables flexibility of dosing to be achieved. In patients at risk of hypoglycemia, daily starting dose of 30 mg is recommended. Combination with other antidiabetics: Diamicron MR 60 mg can be given in combination with biguanides, alpha glucosidase inhibitors or insulin (under close medical supervision). CONTRAINDICATIONS: Hypersensitivity to gliclazide or to any of the excipients, other sulfonylurea or sulphonamides; type 1 diabetes; diabetic pre-coma and coma, diabetic ketoacidosis; severe renal or hepatic insufficiency (in these cases the use of insulin is recommended); treatment with miconazole (see interactions section); lactation (see fertility, pregnancy and lactation section). WARNINGS: Hypoglycemia may occur with all sulfonylurea drugs, in cases of accidental overdose, when calorie or glucose intake is deficient, following prolonged or strenuous exercise, and in patients with severe hepatic or renal impairment. Hospitalization and glucose administration for several days may be necessary. Patient should be informed of the importance of following dietary advice, of taking regular exercise, and of regular monitoring of blood glucose levels. To be prescribed only in patients with regular food intake. Use with caution in patients with G6PD-deficiency. Excipient: contains lactose. INTERACTIONS: Risk of hypoglycemia - contraindicated: miconazole; not recommended: phenylbutazone; alcohol; use with caution: other antidiabetic agents, beta-blockers, fluconazole, ACE inhibitors (captopril, enalapril), H2-receptor antagonists, MAOIs, sulfonamides, clarithromycin, NSAIDs. Risk of hyperglycemia - not recommended: danazol; use with caution: chlorpromazine at high doses; glucocorticoids; ritodrine; salbutamol; terbutaline; Potentiation of anticoagulant therapy (e.g. warfarin), adjustment of the anticoagulant may be necessary. FERTILITY, PREGNANCY AND BREASTFEEDING: Pregnancy: Change to insulin before a pregnancy is attempted, or as soon as pregnancy is discovered. Lactation: Contraindicated. DRIVING & USE OF MACHINES: Possible symptoms of hypoglycemia to be taken into account especially at the beginning of the treatment. UNDESIRABLE EFFECTS: Hypoglycemia, abdominal pain, nausea, vomiting, dyspepsia, diarrhea, constipation. Rare: changes in hematology generally reversible (anemia, leukopenia, thrombocytopenia, granulocytopenia). Raised hepatic enzymes levels (AST, ALT, alkaline phosphatase), hepatitis (isolated reports). If cholestatic jaundice: discontinuation of treatment. Transient visual disturbances at start of treatment. More rarely: rash, pruritus, urticaria, angioedema, erythema, maculopapular rashes, bullous reactions such as Stevens-Johnson syndrome and toxic epidermal necrolysis, and exceptionally, drug rash with eosinophilia and systemic symptoms (DRESS). As for other sulfonylureas: observed cases of erythrocytopenia, agranulocytosis, hemolytic anemia, pancytopenia, allergic vasculitis, hyponatremia, elevated liver enzymes, impairment of liver function (cholestasis, jaundice) and hepatitis which led to life-threatening liver failure in isolated cases. OVERDOSE: Possible severe hypoglycemia requiring urgent IV glucose, immediate hospitalization and monitoring. PROPERTIES: Diamicron MR 60 mg is a sulfonylurea reducing blood glucose levels by stimulating insulin secretion from beta cells in the islets of Langerhans, thereby restoring the first peak of insulin secretion and increasing the second phase of insulin secretion in response to a meal or intake of glucose. Independent hemovascular properties. PRESENTATION: Box of 60 tablets of Diamicron MR 60 mg in blister. Servier Philippines, Inc. #2 Orion Cor. Mercedes Sts., Bel-Air Village, Makati City.
www.servier.com

Further information available upon request.

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