



Medical

Echo

NOVEMBER | 2011

VOL. 1 | ISSUE 4

ISSN 2224-1051

**Expand
your mind,
Change
your world**

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Editorial

November 2011

Dear Doctor,

Wish you all "**Eid Mubarak**". Eid-ul-Azha ('festival of Sacrifice') is an important festival in the Muslim calendar. The festival remembers the prophet Ibrahim's willingness to sacrifice his son when God ordered him to. This is a very special occasion among Bangladeshi Muslim people.

The **16th of December, 1971** is a glorious day in our national history. This day reminds us of the supreme sacrifice of our freedom fighters who will ever shine in our hearts like the luminous stars in the sky. On this day we pay rich praise to the memory of the sufferers who laid down their lives for the sake of our independence. Every year we observe this day in a supreme colourful manner.

This is our great pleasure to inform you that we have launched our fourth issue of this medical publication. Our main inspiring topic of this issue is based on 'Day Awareness', globally a day is dedicated for the awareness of specific disease among the doctors, patients and general public. We have focused on two awareness campaigns of '**World Diabetes Day**' and '**World AIDS Day**' with in the November & December of 2011.

We are going to share intriguing information with you through our section of '**Medical Tit Bits**' to give you some jaw-dropping medical mystery related incidents.

In the '**Clinical Echo**' section, we have presented the original articles on the latest clinical updates.

Finally through our vibrant section of '**Corporate Echo**', we would like to share our corporate update information with you. Very recently, Apex Pharma Limited has signed a comprehensive agreement with **ICDDR,B Clinical Trial Unit (CTU)** for **Bioequivalence Studies** on 10th August 2011. Apex Pharma is a rapidly growing pharmaceutical company. The aim of this unique initiative is to determine the Efficacy, Safety and Quality of Apex medicines as world class standard.

We are very eager to build a strong bi-lateral relationship with global leaders to give the best medicinal services to our nation.

Happy reading! Wish you all happy and pleasant life...

Sincerely yours

Dr. Mohammed Arman Ullah
Head of Marketing
Apex Pharma Limited



Chief Patron

Mr. A. M. Faruque

The Managing Director & CEO
Apex Pharma Ltd.

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- Md. Quamrul Hassan
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- Dr. G. M. Raihanul Islam
- Dr. S. M. Emtiazur Rahman





World Diabetes Day

14 November, 2011

Introduction: World Diabetes Day is the primary global awareness campaign of the diabetes mellitus and is held on November 14 of each year. It was introduced in 1991 by the International Diabetes Federation and the World Health Organization in response to the alarming rise of diabetes around the world. The global diabetes awareness campaign was introduced amidst concern over an increasing diabetes epidemic. As of 2000 at least 171 million people worldwide suffer from diabetes, or 2.8% of the total population.

Why: World Diabetes Day, on the 14th November every year, has grown from humble beginnings to become a globally-celebrated event to increase awareness about diabetes. Comprising hundreds of campaigns, activities, screenings, lecture, meetings and more, World Diabetes Day is proving internationally effective in spreading the message about diabetes. World Diabetes day is celebrated worldwide in more than 160 countries, all member States of the United Nations, healthcare professionals and many more. World Diabetes day is a call to all those who are responsible for Diabetes care and can contribute to control it. For a diabetic patient, this is a message for empowerment education so that he can follow proper ways whether diet food or exercises to improve his health.

History: The history of diabetes started in approximately 1550BC. An Egyptian papyrus mentions a rare disease that causes the patient to lose weight rapidly and urinate frequently. This is thought to be the first reference to the disease. November 14th is a significant date in the diabetes calendar because it marks the birthday of the man who co-discovered insulin, Frederick Banting. Banting discovered insulin in 1922, alongside Charles Best.

Theme

2009- 2013: "Act on Diabetes. Now."

2008 : "Diabetes in Children and Adolescents"

2007 : "No Child Should Die of Diabetes"



Diabetes

KILLS

**1 person
every
8 seconds**

ACT ON DIABETES. NOW.



International
Diabetes
Federation



world diabetes day
14 November

WWW.WORLDDIABETESDAY.ORG





Management of Diabetes Mellitus

Diabetes mellitus (DM) refers to a group of common metabolic disorders that share the phenotype of hyperglycemia. Several distinct types of DM exist and are caused by a complex interaction of genetics and environmental factors. Depending on the etiology of the DM, factors contributing to hyperglycemia include reduced insulin secretion, decreased glucose utilization, and increased glucose production. The metabolic dysregulation associated with DM causes secondary pathophysiologic changes in multiple organ systems that impose a tremendous burden on the individual with diabetes and on the health care system.

Etiological Classification of Diabetes Mellitus

A. Type 1 diabetes

- Immune-mediated
- Idiopathic

B. Type 2 diabetes

Symptoms of Hyperglycaemia

- Polyuria
- Nocturia
- Tiredness, fatigue
- Recent change in weight
- Blurring of vision
- Nausea; headache
- Hyperphagia; predilection for sweet foods
- Thirst, dry mouth
- Mood change, irritability, difficulty in concentrating, apathy

Comparative Clinical Features of Type 1 and Type 2 Diabetes

	Type 1	Type 2
Typical age at onset	< 40 years	> 50 years
Duration of symptoms	Weeks	Months to years
Body weight	Normal or low	Obese
Ketonuria	Yes	No
Rapid death without treatment with insulin	Yes	No
Autoantibodies	Yes	No
Diabetic complications at diagnosis	No	25%
Family history of diabetes	Uncommon	Common
Other autoimmune disease	Common	Uncommon





Diagnosis

Patient complains of symptoms suggesting diabetes

- Test urine for glucose and ketones
- Measure random or fasting blood glucose. Diagnosis confirmed by
Fasting plasma glucose ≥ 7.0 mmol/l (126 mg/dl)
Random plasma glucose ≥ 11.1 mmol/l (200 mg/dl)

Indication for oral glucose tolerance test

- Fasting plasma glucose 6.1-7.0 mmol/l (110-126 mg/dl)
- Random plasma glucose 7.8-11.0 mmol/l (140-199 mg/dl)

Haemoglobin A1c (HbA1c)

- The A1c test measures average blood glucose control for the past 2 to 3 months.
- It is determined by measuring the percentage of glycated hemoglobin, or HbA1c, in the blood.
- Check A1c twice year at a minimum, or more frequently when necessary.
- It does not replace daily self-testing of blood glucose.



Treatment with insulin

- ✓ Rapidly acting human insulin analogs: Insulin lispro & Insulin aspart
- ✓ Short-acting regular insulin: Regular insulin
- ✓ Intermediate-acting insulins : NPH insulin
- ✓ Premixed insulins : 70% NPH/30% regular, 50% NPH/50% regular & 70% NPL/25% insulin lispro
- ✓ Long-acting human insulin analogs: Insulin glargine & Insulin detemir

Treatment with Anti-diabetic oral drugs



- Repaglinide 0.5, 1, and 2 mg 0.5 to 4 mg three times a day before meals 3 hours
- Glipizide 5-20 mg twice a day 30 minutes before meals
- Glimepiride 1-4 mg once a day is usual dose, 8 mg once a day is maximal dose
- Metformin 500, 850, and 1000 mg 1-2.5 g; 1 tablet with meals two or three times daily 7-12 hours
- Pioglitazone 15, 30, and 45 mg 15-45 mg daily
- Sitagliptin 25, 50, and 100 mg 100 mg once daily is usual dose; dose is 50 mg once daily if calculated creatinine clearance is 30 to 50 ml/min and 25 mg once daily if clearance is less than 30 ml/min. 24 hours

Complications of Diabetes Mellitus

- | | |
|---------------|-------------------------------|
| ● Retinopathy | ● Peripheral Vascular Disease |
| ● Neuropathy | ● Gastro paresis |
| ● Nephropathy | ● Periodontal disease |

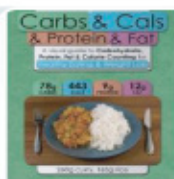
Ref: Davidson's principles and practice of medicine 20th Edition & CMDT 2010



Myths & Facts of Diabetes

Myth: Excessive eating of sugar and sweets causes diabetes

Fact: Diabetes is usually caused due to genetics and lifestyle factors. Being overweight increases the chances of developing type 2 diabetes. A high calorie diet contributes to weight gain. These calories not necessarily come from sugar or fats. Eating more sugar and sweets leads to overweight when not balanced with healthy meal plan and exercise. If sugar and sweets are part of a healthy diet plan, then consuming more sugar does not lead to diabetes.



Myth: Diabetes should limit carbohydrates, not proteins or fats.

Fact: Limiting carbohydrates surely helps in keeping the blood sugar levels in check but it's also important to be sure that your total calorie intake is well balanced. Whether its carbohydrates, proteins or fats, everything should be well-balanced and taken in moderate quantities.

Myth: Diabetes patients can't play sports or actively participate in physical activities.

Fact: Let us look at a few names of famous sportsmen suffering from diabetes. The list includes, among numerous others, the following: Wasim Akram, Missy Foy, Jay Cutler, Scott Dunton, Arthur Ashe, Gary Hall Jr., James 'Catfish' Hunter, Chris Jarvis, Billie Jean King, Ham Richardson, Everson Walls, Robert Marella, Ayden Byle and more. There are many more athletes who suffer from diabetes but carry on their games without any hindrance.



Myth: Women with diabetes should not get pregnant.

Fact: Women with diabetes can get pregnant but requires good blood sugar control during pregnancy.

Myth: Diabetes can be controlled only by strict adherence to diet and exercise.

Fact: Drugs will be needed in majority of patients and strict adherence to diabetes diet and exercise will help in controlling the diabetic state with drugs.



Nervo-B

Vitamin B₁ + Vitamin B₆ + Vitamin B₁₂ Tablet



B₁, B₆ & B₁₂



For the Management of Diabetic Neuropathy

World AIDS Day

01 December, 2011

Introduction: World AIDS Day, observed December 1 each year, is dedicated to raising awareness of the AIDS pandemic caused by the spread of HIV infection. AIDS has killed more than 25 million people between 1981 and 2007, and an estimated 33.2 million people worldwide live with HIV as of 2007, making it one of the most destructive epidemics in recorded history. Despite recent, improved access to antiretroviral treatment and care in many regions of the world, the AIDS epidemic claimed an estimated 2 million lives in 2007, of which about 270,000 were children.

Why: Government and health officials also observe the event, often with speeches or forums on the AIDS topics. Since 1995, the President of the United States has made an official proclamation on World AIDS Day. Governments of other nations have followed suit and issued similar announcements.

History: World AIDS Day was first conceived in August 1987 by James W. Bunn and Thomas Netter, two public information officers for the Global Programme on AIDS at the World Health Organization in Geneva, Switzerland. Bunn and Netter took their idea to Dr. Jonathan Mann, Director of the Global Programme on AIDS (now known as UNAIDS). Dr. Mann liked the concept, approved it, and agreed with the recommendation that the first observance of World AIDS Day should be 1 December, 1988.

Theme: _____

2011: Getting to Zero

2010 : Universal Access and Human Rights

2009 : Universal Access and Human Rights

2008 : Stop AIDS. Keep the Promise - Lead - Empower - Deliver

2007: Stop AIDS. Keep the Promise - Leadership _____



Management of AIDS

Clinical Diagnosis

Symptoms and Signs

Many individuals with HIV infection remain asymptomatic for years even without antiretroviral therapy, with a mean time of approximately 10 years between exposure and development of AIDS. Physical examination may be entirely normal. Abnormal findings range from completely nonspecific to highly specific for HIV infection. Those that are specific for HIV infection include hairy leukoplakia of the tongue, disseminated Kaposi sarcoma, and cutaneous bacillary angiomatosis. Generalized lymphadenopathy is common early in infection.

Systemic complaints

Fever, night sweats, and weight loss are common symptoms in HIV-infected patients and may occur without a complicating opportunistic infection. Patients with persistent fever and no localizing symptoms should nonetheless be carefully examined, and evaluated with a chest radiograph (Pneumocystis pneumonia can present without respiratory symptoms), bacterial blood cultures if the fever is greater than 38.5 °C, serum cryptococcal antigen, and mycobacterial cultures of the blood.

Laboratory findings with HIV infection.

Test	Significance
HIV enzyme-linked immunosorbent assay (ELISA)	Screening test for HIV infection. Of ELISA tests 50% are positive within 22 days after HIV transmission; 95% are positive within 6 weeks after transmission.
Western blot	Confirmatory test for HIV. Specificity when combined with ELISA > 99.99%.
HIV rapid antibody test	Positive results must be confirmed with standard HIV test (ELISA and Western blot).
Complete blood count	Anemia, neutropenia, and thrombocytopenia common with advanced HIV infection.
CD4 lymphocyte percentage	Percentage may be more reliable than the CD4 count. Risk of progression to an AIDS opportunistic infection or malignancy is high with percentage < 14% in the absence of treatment.

Treatment of AIDS-related opportunistic infections and malignancies.

Infection or Malignancy	Treatment
Pneumocystis jiroveci infection	Trimethoprim-sulfamethoxazole, 15 mg/kg/day (based on trimethoprim component) orally or intravenously for 14-21 days. Pentamidine, 3-4 mg/kg/day intravenously for 14-21 days.
Cytomegalovirus infection	Valganciclovir, 900 mg orally twice a day for 21 days with food (induction), followed by 900 mg daily with food (maintenance).
Herpes simplex infection	Acyclovir, 400 mg orally three times daily until healed; or acyclovir, 5 mg/kg intravenously every 8 hours for severe cases.
Herpes zoster	Acyclovir, 800 mg orally four or five times daily for 7 days. Intravenous therapy at 10 mg/kg every 8 hours for ocular involvement.

Antiretroviral therapy.

Drug	Dose
Zidovudine	600 mg orally daily in two divided doses
Tenofovir	300 mg orally once daily
Indinavir	800 mg orally three times daily
Zidovudine	600 mg orally daily in two divided doses

Ref: CMDT2010





Myths & Facts of AIDS

Myth : I have just been diagnosed with HIV and AIDS...I am going to die.

Fact : This is the biggest myth of all. In fact people are living with HIV and AIDS longer today than ever before. Medications, treatment programs, and a better understanding of HIV and AIDS allow those infected to live normal, healthy, productive lives.



Myth : AIDS can be contracted through non-sexual physical contact like hug, kiss, hand-shake or by sharing toilet seats, utensils, mosquito bites, etc.

Fact : HIV or AIDS does not occur by any of the above. In fact, unprotected sexual relations or multiple partners are a major cause for people getting infected with HIV.

Myth : Most people who get infected with HIV become seriously ill within three years.

Fact : In fact, after a person is infected with HIV, there is usually no change in that person's health for quite a few years. The person feels well, is able to work as before and shows no signs of being sick. This period is normally around 10 years, with an average range of some 8 to 12 years in length.

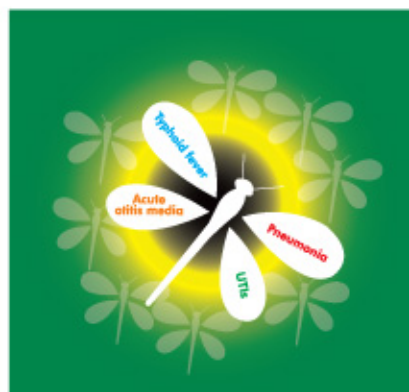


Myth : HIV/AIDS is curable.

Fact : It will be quite a while before an effective vaccine for AIDS and HIV is developed. The medications that are available right now can only delay the transformation of HIV into full-blown AIDS and not cure it.

Myth: If I'm receiving treatment, I can't spread the HIV virus.

Fact : When HIV treatments work well, they can reduce the amount of virus in your blood to a level so low that it doesn't show up in blood tests. Research shows, however, that the virus is still "hiding" in other areas of the body. It is still essential to practice safe sex so you won't make someone else become HIV-positive.



TEXTIT

Cefixime

200 mg & 400 mg Capsule, 100 mg/5 ml PFS

...a truly broad spectrum antibiotic



Medical

Tit-Bits

4 stories of Survival

1

D'Zhana Simmons, of South Carolina, suffers from a condition that weakened her heart, leaving it pumping inefficiently. After a failed heart transplant, Simmons was given an artificial heart to pump blood for her. Artificial hearts are typically used to support a patient's own heart rather than replace it entirely, but Simmons's heart was removed from her body altogether.

Simmons lived without a heart for 118 days, until she finally received a successful transplant in October 2008. Doctors believe Simmons, who was 14 at the time, to be the youngest patient kept alive in this manner.

Teen lives 118 days without a heart



Most extensive face transplant ever



2

When her husband shot her in the face five years ago, Connie Culp was left with only fragments of her upper eyelids, forehead, lower lip, and chin. In a 22-hour procedure in December 2008, surgeons at the Cleveland Clinic replaced 80% of Culp's face with the face of a donor who had just died.

It was the most extensive and complex face transplant ever performed, the first in the United States, and just the fourth worldwide. Culp still draws stares from strangers, but she is finally able to talk, smile, smell, and taste again.



Tit-Bits

World's oldest living conjoined twins



3

At 57 years old, Ronnie and Donnie Galyon are the oldest living conjoined twins in the world, having far exceeded the life-span predictions that doctors made at their birth in 1951.

Joined at the base of their sternum, they have separate arms and legs, stomachs, lungs, and hearts, but they share one large intestine and one set of male reproductive organs. As children they worked in circus sideshows to help support their large family, and they continued to do so into the 1990s.

With lots of help from their younger brother Jim, they now live independently in a house they bought in 1991. However, Jim noted in a 2009 TLC documentary that the twins' health is beginning to decline.

4

Doctors in Chittagong removed a needle from the left lung of a man 20 years after it accidentally went through his windpipe. The two inch needle, used by doctors to transfuse fluids into patient's body, was removed using a process called Bronchoscope, where forceps were inserted down the windpipe to clutch the needle and bring it out. The man, Md. Ibrahim, 24, a day labourer and resident of Naogaon of Rajshahi, is now in good condition. Ibrahim said he was playing with the needle inside his mouth at the age of 4 when it accidentally went through his windpipe. He felt occasional pains in his chest until recently, when the pains increased with severe cough. He consulted doctors on September 4, who discovered the needle in an X-ray of the lungs. The doctor referred him to chest specialist who carried out Bronchoscope on Ibrahim at Chevron clinical laboratory private limited. "The needle was brought out in 25 minutes. It was really mysterious that the needle did no harm to Ibrahim's lung during all these years."

Needle removed from man's lung after 20 years.



A Severe GERD Symptoms Inversely Linked to Esophageal Cancer

July 21, 2011

The risk for esophageal adenocarcinogenesis is significantly higher in medically treated patients with mild or absent symptoms of gastroesophageal reflux disease (GERD) vs those with severe symptoms, according to the results of a cross-sectional study reported in the July issue of the Archives of Surgery.

"Screening for esophageal adenocarcinoma has focused on identifying Barrett esophagus (BE) in patients with severe, longstanding symptoms of ...GERD," write Katie S. Nason, MD, MPH, from the Division of Thoracic and Foregut Surgery, University of Pittsburgh in Pittsburgh, Pennsylvania, and colleagues. "Unfortunately, 95% of patients who develop esophageal adenocarcinoma are unaware of the presence of BE before their cancer diagnosis, which means they never had been selected for screening. One possible explanation is that no correlation exists between the severity of GERD symptoms and cancer risk."

The hypothesis tested by this study was that severe GERD symptoms are not associated with an increased prevalence of BE, dysplasia, or cancer among patients undergoing primary endoscopic screening. At a university hospital, 769 patients with GERD underwent primary screening endoscopy from November 1, 2004, through June 7, 2007. The primary study endpoint was esophageal adenocarcinogenesis, defined as BE, dysplasia, or cancer, as a function of symptom severity and proton pump inhibitor (PPI) therapy.

Esophageal adenocarcinogenesis was detected in 122 patients. Endoscopic findings of esophagitis correlated positively with an increasing number of severe GERD symptoms (odds ratio [OR], 1.05; 95% confidence interval [CI], 1.01 - 1.09). In contrast, the odds of adenocarcinogenesis were lower with increasing number of severe GERD symptoms (OR, 0.94; 95% CI, 0.89 - 0.98).

Among patients taking PPIs, those with no severe typical or atypical GERD symptoms were 61.3% and 81.5% more likely to have adenocarcinogenesis, respectively, than patients who reported that all symptoms were severe. "Medically treated patients with mild or absent GERD symptoms have significantly higher odds of adenocarcinogenesis compared with medically treated patients with severe GERD symptoms," the study authors write. "This finding may explain the failure of the current screening paradigm in which the threshold for primary endoscopic examination is based on symptom severity."

Ref: Arch Surg. 2011;146:851-858. [Medscape Medical News © 2011 WebMD, LLC]



Suitable for patients suffering from GERD



B

More proof of the benefits of almonds for diabetes control

23 Sep 2011

Two new studies into the potential health benefits of eating almonds have supported evidence that they can help people with type 2 diabetes to maintain their blood glucose and cholesterol levels.

One of the studies, published in the journal *Metabolism*, showed that consuming an ounce of almonds straight before eating a high-starch meal brought a 30 per cent reduction in post-meal glucose levels for patients with type 2 diabetes, compared with a 7 per cent reduction for non-diabetics. In addition, after overnight fasting, patients with type 2 diabetes whose meal contained almonds had a lowering of blood sugar levels after their meal.

The effect of regular almond consumption on blood glucose levels for people with type 2 diabetes was also investigated, with the daily consumption of one ounce of almonds over a 12-week period being associated with a 4 per cent reduction in haemoglobin A1c (HbA1c) and the same reduction in body mass index (BMI).

The second study, which was published in *Diabetes Care*, revealed that nuts such as almonds could help to maintain healthy levels of blood glucose and cholesterol for both men and post-menopausal women who suffer from type 2 diabetes.

Karen Lapsley, chief science officer for the Almond Board of California, commented "Those with diabetes are faced with many challenges with their disease management, which is why we are always energized when new research is published that supports our understanding of almonds' role in helping alleviate some of the difficulties."

Ref: <http://www.diabetes.co.uk/news/2011>



Cefuroxime

125 mg, 250 mg Tab., 70 ml PFS

An antibiotic with broad antibacterial coverage



Apex
pharma
www.apexpharmabd.com

Corporate **Echo**



Apex Pharma Forms a Clinical Alliance for Bioequivalence Study with ICDDR,B

Apex Pharma Limited signed a comprehensive agreement with ICDDR,B Clinical Trial Unit (CTU) for Bioequivalence Studies on 10 August 2011.

This new ICDDR,B CTU facility has recently been established with highly skilled, knowledgeable & qualified local and international scientists to ensure global accredited standards of data, safety, ethics and laboratories.

Apex Pharma is a rapidly growing local pharmaceutical company. Apex has recently introduced first ever large team of graduate pharmacists as "Medico - Marketing Executives". The aim of this unique initiative is to significantly enhance the quality of pharmaceutical company product communication & services to the medical profession.

Bioequivalence is a critical factor in determining the Efficacy, Safety & Quality of all medicines. A.M.Faruque, Managing Director and CEO, Bill McKean, Chief Pharmaceutical Officer, and Md. Quamrul Hassan, Chief Operating Officer of Apex Pharma; Dr. Mark Pietroni, Medical Director and Ms. Lufte Ara, Head of Clinical Governance & Systems of ICDDR,B and other high officials from both organizations were also present on this occasion.

Azinil

Azithromycin

250 mg Tablet

500 mg Tablet

20 ml PFS

35 ml PFS

Once Daily Antibiotic



- ⌚ Dosage convenience
- ⌚ Maximum patient's compliance
- ⌚ Most preferred antibiotic in Bangladesh
- ⌚ Excellent tissue penetration

