



# Medical

# Echo

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**Expand  
your mind,  
Change  
your world**

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## Editorial

Dear Doctor,

July, 2012

We have started publishing "Medical Echo" from May, 2011. After one year of successful journey of our publication, this indeed is a great pleasure for us to exhibit the **8th issue of Medical Echo** consisting of updated information related to medical science and technology. We are grateful to you for your heart warming appreciation and encouragement through your valuable feedbacks.

Continuing the trend of our main topic with "**Day Awareness**", a day usually set by a major organization or government to observe a medical or ethical cause of importance on a national or international level, this issue is focused on "**World Hepatitis Day**" on 28th July & "**World Breastfeeding Week**" from 1st-7th August 2012.

In the section of "**Medical Case Echo**", we are presenting one of the recent articles on "Acute gastrointestinal bleeding from a sub mucosal gastric mass" from Annals of Gastroenterology journal.

A bunch of mysterious & most amazing medical miraculous incidents have been portrayed in "**Medical Tit-Bits**" section.

Our revealing section of "**Clinical Echo**" based on a brief of recent clinical updates, "**Premature babies have higher psychiatric risk**".

Finally, through our lively section of "**Corporate Echo**", we would like to share our current corporate events. This is to inform you with great pleasure that ICCR,B has confirmed our Esomeprazole brand "**Nexe**" is Bioequivalent with originator brand (Nexium, AstraZeneca, UK), this indicates that our "**Nexe**" has the equal standard of quality, efficacy & safety as like international brand.

We are also delighted to share some of our **Continuing Medical Education (CME)** programs in different medical institutes in Bangladesh.

We are very much eager to build a good relationship with you through Medical professional communication.

Wishing you cheerful readings.

Sincerely yours

(Dr. Mohammed Arman Ullah)  
Head of Marketing  
Apex Pharma Limited



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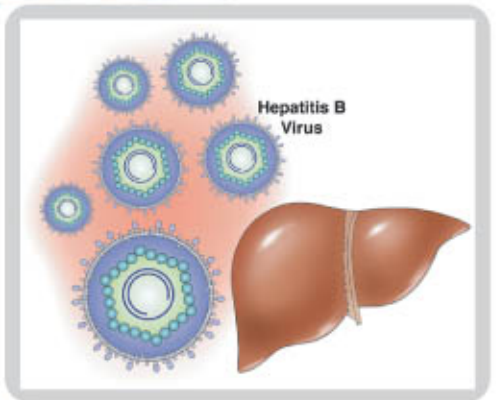
# World Hepatitis Day

## 28 July 2012

**Introduction:** World Hepatitis Day, observed on July 28 every year, aims to raise global awareness of hepatitis B and hepatitis C and encourage prevention, diagnosis and treatment.

Hepatitis viruses A, B, C, D and E can cause acute and chronic infection. Approximately 500 million people worldwide are living with either hepatitis B or hepatitis C. If left untreated and unmanaged, hepatitis B or C can lead to advanced liver scarring (cirrhosis) and other complications, including liver cancer or liver failure.

**Why:** World Hepatitis Day is marked to increase the awareness and understanding of viral hepatitis and the diseases that it causes. It provides an opportunity to focus on specific actions such as: "strengthening prevention, screening and control of viral hepatitis and its related diseases"; "Increasing hepatitis B vaccine coverage and integration into national immunization programmes"; and "coordinating a global response to hepatitis".



**History:** The inaugural International Hepatitis C Awareness day, coordinated by various European and Middle Eastern Patient Groups, took place October 1, 2004, however many patient groups continued to mark 'Hepatitis Day' on disparate dates. In 2007 the World Hepatitis Alliance was formed to unite worldwide hepatitis B and hepatitis C patient groups and bring more public attention to the issue of Viral Hepatitis. 63<sup>rd</sup> World Health Assembly in May 2010, World Hepatitis Day was given global endorsement as the primary focus for national and international awareness-raising efforts and the date was changed to July 28 (in honour of Nobel Laureate Prof. Baruch Samuel Blumberg, discoverer of the hepatitis B virus, who celebrates his birthday on that date).

### Theme:

2012- "This is hepatitis... It's closer than you think"

2011- "This is hepatitis" can affect anyone, anywhere. Know it. Confront it.

2010- "This is hepatitis": Get tested

2009- "Am I number 12?"

2008- "Am I number 12?"





Don't ignore it.. Hepatitis is a potentially fatal disease that affects 1 in 12 people worldwide, but there are rarely obvious symptoms

**This is hepatitis...**  
**Know it. Confront it. Get tested.**







# Management of Acute Liver Failure

## Acute liver failure







Acute liver failure is an uncommon but serious syndrome. The presentation is with mental changes progressing from confusion to stupor and coma, and a progressive deterioration in liver function. The syndrome was originally defined further as occurring within 8 weeks of onset of the precipitating illness, in the absence of evidence of pre-existing liver disease. More recently, newer classifications divides acute liver failure into hyperacute, acute and subacute according to the interval between onset of jaundice and encephalopathy.

## Clinical assessment

Cerebral disturbance (hepatic encephalopathy) is the cardinal manifestation of acute liver failure, but in the early stages this can be mild and episodic. The initial clinical features are often subtle and include reduced alertness and poor concentration, progressing through behavioural abnormalities such as restlessness and aggressive outbursts to drowsiness and coma. General symptoms include weakness, nausea and vomiting. Right hypochondrial discomfort is an occasional feature. The patient have usually jaundice. Occasionally, death may occur in fulminant cases of acute liver failure before jaundice develops. The liver is usually of normal size but later becomes smaller. Hepatomegaly is unusual and splenomegaly is uncommon and never prominent. Ascites and oedema are late developments and may be a consequence of fluid therapy.

## Investigations

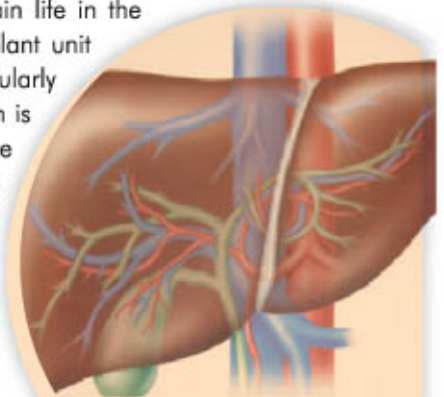
### Investigations to determine the cause of acute liver failure

-  HBsAg, IgM anti-HBc
-  IgM anti-HAV
-  Anti-HEV, HCV, cytomegalovirus, herpes simplex, Epstein-Barr virus
-  Ultrasound of liver and Doppler of hepatic veins
-  Toxicology screen of blood and urine
-  Immunoglobulins

## Management

Patients with acute liver failure should be treated in a high-dependency or intensive care unit as soon as progressive prolongation of the prothrombin time occurs or hepatic encephalopathy is identified, so that prompt treatment of complications can be initiated. Conservative treatment aims to maintain life in the hope that hepatic regeneration will occur, but early transfer to a specialised transplant unit should always be considered. N-acetylcysteine therapy may improve outcome, particularly in patients with acute liver failure due to paracetamol poisoning. Liver transplantation is an increasingly important treatment option for acute liver failure, and criteria have been developed to identify patients unlikely to survive without a transplant. Patients should, wherever possible, be transferred to a transplant centre before these criteria are met to allow time for assessment and to maximise the time for a donor liver to become available. Survival following liver transplantation for acute liver failure is improving, and 1-year survival rates of about 60% can be expected.

Ref: Davidson's Principles & Practice of Medicine 21<sup>st</sup> edition [page 952-954]





# Myths & Facts *of Hepatitis*

**Myth:** Hepatitis B is rare and I have less risk of getting infected by hepatitis B virus

**Fact:** Hepatitis B is the most common hepatitis viral infection and contagious disease in the world



**Myth:** Can hepatitis patient donate blood?

**Fact:** Hepatitis B or C carrier cannot donate blood due to having an elevated ALT (alanine aminotransferase) level. ALT is an important enzyme for normal liver function

**Myth:** All types of viral hepatitis cause acute and chronic hepatitis

**Fact:** Only Hepatitis A, E and possible F can cause acute hepatitis and usually recover within 6 months. Meanwhile Hepatitis B, C and D can cause both acute and chronic hepatitis and lead to cirrhosis



**Myth:** I will not get other hepatitis types if I already being infected with one of the hepatitis

**Fact:** No, the person still at risk of being infected with other types of viral hepatitis. However, if a person already got infected with eg: hepatitis A then the person may at some point is immune to hepatitis A virus and never get it again so they will not transmit it to other people

**Myth :** I can inherit hepatitis B from my parents.

**Fact :** You can only get hepatitis B by coming into contact with the blood or body fluids of someone with the virus



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**Understanding the Past-  
Planning the Future:**  
Celebrating 10 years of  
WHO/UNICEF's Global Strategy  
for Infant and Young Child Feeding

# World Breastfeeding Week

1-7 August 2012

**Introduction:** World Breastfeeding Week is celebrated every year from 1<sup>st</sup> to 7<sup>th</sup> August in more than 170 countries to encourage breastfeeding and improve the health of babies around the world. It commemorates the innocent declaration made by WHO and UNICEF policy-makers in August 1990 to protect, promote and support breastfeeding.

Breastfeeding is the best way to provide newborns with the nutrients they need. WHO recommends exclusive breastfeeding until a baby is six months old, and continued breastfeeding with the addition of nutritious complementary foods for up to two years or beyond.

**Why:** Malnutrition is responsible, directly or indirectly for about one third of deaths among children under five. Well above two thirds of these deaths, often associated with inappropriate feeding practices, occur during the first year of life.

Nutrition and nurturing during the first years of life are both crucial for life-long health and well-being. In infancy, no gift is more precious than breastfeeding; yet barely one in three infants is exclusively breastfed during the first six months of life.

**History:** The idea of WBW (World Breastfeeding Week) was born at the basement of UNICEF office on 14<sup>th</sup> February, 1991. The first World Breastfeeding Week campaign on the Baby - Friendly Hospital Initiative (BFHI) was launched on 1<sup>st</sup> August 1992 to commemorate the adoption of the innocent declaration. (World Breastfeeding Week) every year from ( 1<sup>st</sup>-7<sup>th</sup> August) as an opportunity for groups worldwide to take specific actions that will raise public awareness about breastfeeding and reap support for it.

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# Benefits of Breastfeeding

## Health Benefits to Child



Children receive the most complete and optimal mix of nutrients & antibodies



The varying Composition of breast milk keeps pace with the infants' individual growth and changing nutritional needs.



Reduce the risk of chronic constipation, colic and other stomach upsets.



Increase antibody response and reduced the risk of heart disease in later life.



Breastfed infants develop higher IQ's and have improved brain and nervous system development.



Breastfeeding plays an important role in the emotional and spiritual development of babies.



## Health Benefits to Mother



Reduced risk of breast, ovarian, cervical, and endometrial cancers



Reduced risk of anemia



Protection against osteoporosis and hip fracture later in life



Reduced risk of mortality for women with rheumatoid arthritis (RA) has been associated with total time of lactation



Develops a special emotional relationship and bonding with her child



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# Myths & Facts of *Breastfeeding*

1

**Myth: Breastfeeding is painful.****Fact:** Breastfeeding should not hurt, though some may have some minor discomfort during the first week or two.

2

**Myth: Breastfeeding is inconvenient****Fact:** Breastfeeding is far more convenient than bottle feeding. Breastmilk is free, pre-mixed, pre-warmed, and always ready to use.

3

**Myth: Women who breastfeed can't safely lose weight until their babies are weaned.****Fact:** Breastfeeding actually contributes to gradual, healthy weight loss because it can burn an extra 300-500 calories per day.

4

**Myth: A breastfed baby needs extra water.****Fact:** Breastmilk contains all the water a baby needs.

5

**Myth: Formula is as good as breastmilk.****Fact:** Formula doesn't provide the full range of nutrients contained in breastmilk, nor does it contain the antibodies that can protect infants against disease.

6

**Myth: If the baby has diarrhoea or vomiting, the mother should stop breastfeeding.****Fact:** The best medicine for a baby's gut infection is breastfeeding.

7

**Myth: It is difficult to breastfeed successfully.****Fact:** Although new mothers may need some practice before developing confidence in their breastfeeding skills, it is a natural activity that almost any mother and baby can learn together.

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## Weirdest and Most Amazing Medical Miracles



### 1 90 kg Tumor Removed from Mans Leg

Nguyen Duy Hai has had a tumor on his leg since he was four years old. At age 17, part of his leg was amputated because he couldn't walk or move around. At age 31, he finally had the entire cancer free 90 kg tumor removed, and the physician, Dr. McKinnon waived his fee for this unfortunate family. (Approx. US \$11,000.) Needless to say, this tumor is the largest ever recorded in Vietnam history and happily the operation was a success!

2

### Baby Poo - 1 Pound Baby Survives Being Born 16 Weeks Early in a Toilet

This story is simply amazing, little Latiya, known as the 'miracle baby' survived against all odds. She came out unexpectedly while her mother was using the toilet, right into the water. Weighing only a pound, the mother, Marie, thought she had to be dead, but after resuscitating Latiya, she was placed in an incubator where she spent the first 10 days of her life. Luckily Latiya hadn't taken her first breath while in the toilet - or she would have drowned - and her odds of living were 50-50, but she survived!



3

### Woman Survives After Coughing Up her Own Cancer

Wouldn't it be amazing if cancer could be cured this easily! Claire Osborn, 37 saved her own life when she coughed up a cancerous, inoperable tumor. She states that she felt a tickle in her throat, and started hacking, and out came a 2 cm long heart shaped lump.

She took the tumor to the doctor and it was the cancer, an aggressive throat and mouth cancer called metastatic adenocarcinoma.

The doctors said, "Congratulations" you coughed up your cancer. After further examination, CT scans showed the cancerous tumor was gone. Claire underwent a minor surgery to remove any lingering cells in her throat and back of tongue, but her body rejected the cancer, which is phenomenal.





## Acute gastrointestinal bleeding from a submucosal gastric mass

Annals of Gastroenterology, April 2012

### Introduction

Gastrointestinal stromal tumors (GISTs) are uncommon subepithelial mesenchymal neoplasms of the gastrointestinal tract mainly occurring in the stomach (60%) and proximal small intestine (30%) [1]. Other locations such as colorectal and extra-gastrointestinal locations have been reported. The majority of GISTs are symptomatic (69%) and the main clinical features are gastrointestinal bleeding (30-50%), abdominal mass (20%) and abdominal pain (20%) [2,3]. We herein report a case of melena and hemodynamic instability, the endoscopic investigation of which was initially negative, but a repeat gastroduodenoscopy (GDS) revealed a submucosal mass in the lesser curvature of the stomach with central erosion primarily perceived as ectopic pancreas, but it was later discovered that it pertained to a GIST.

### Case report

A 44-year-old male with a history of hypertension, chronic kidney disease and reflux disease, presented with upper gastrointestinal bleeding and hemodynamic instability. A month prior to admission he underwent GDS and colonoscopy because of melena. No bleeding source was found, but GDS did reveal a submucosal mass in the lesser curvature of the stomach with central erosion suggestive for ectopic pancreas therefore no biopsies or endoscopic ultrasound (EUS) were performed. Figure 1 shows the sub-mucosal mass in the lesser curvature of the stomach with central erosion (black arrow). At the time of admission the patient complained about melena and syncope. Physical examination revealed hypo-tension and tachycardia, but was otherwise unremarkable. Laboratory tests revealed low hemoglobin 5.1 mg/dL. Sub-sequent GDS revealed a submucosal protruding mass in the lesser curvature of the stomach with an eroded surface and bleeding stigmata, which is shown in Figure 2 (black arrow).



Figure 1: Initial endoscopy showed a submucosal mass in the lesser curvature of the stomach with central erosion (black arrow), suggestive for ectopic pancreas

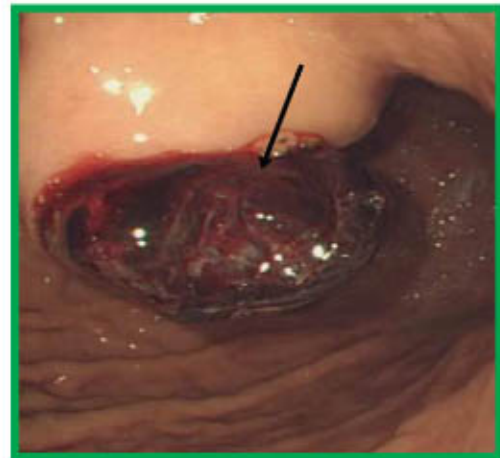


Figure 2: Gastroduodenoscopy during active bleeding revealed a submucosal mass with an eroded surface and bleeding stigmata (black arrow)

This was treated with epinephrine injection and hemoclips. Computed tomography (CT) showed a mass in the stomach with a diameter of 3 x 7 cm without lymphadenopathy or signs of distant metastases. The patient was admitted to the ICU and continuous intravenous proton pump inhibitor was started. However, fluid resuscitation and blood transfusion remained necessary. Therefore, two days after admission, the patient underwent a partial gastrectomy. Figure 3 shows the wedge resection of the gastric mass with central hemorrhage (black arrow). The submucosal mass with central erosion seen with endoscopy and CT scan was characteristic for a GIST. Histo-pathologic examination confirmed the diagnosis, describing an epithelioid type GIST with focal necrosis and hemorrhage with clear resection margins. Immunohistochemical examination demonstrated partial positive CD117 and CD34.

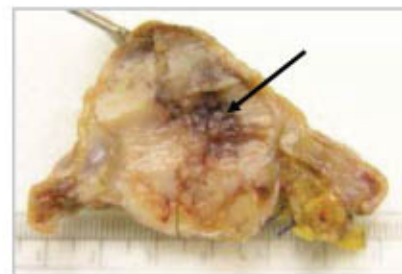


Figure 3: Wedge resection of the gastric mass with central hemorrhage (black arrow) Acute GI bleeding from a submucosal gastric mass

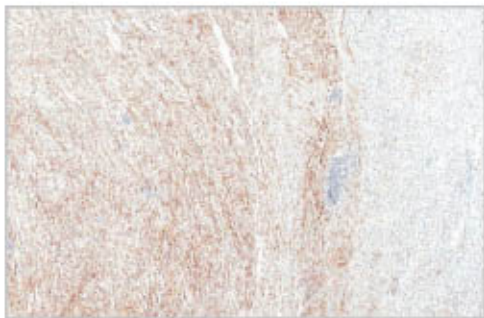


Figure 4: Immunohistochemical examination with brown coloration of the C-kit expression by the tumor cells

Brown coloration of the CD117 positive tumor cells. Twelve days after admission the patient was discharged. GDS, two months after partial gastrectomy, showed no signs of recurrent disease. Seven months later the patient remains recurrence free.

## Discussion

Our case report is important for the clinicians because it underscores the fact that it can be challenging to differentiate submucosal neoplasms from benign submucosal tumors such as ectopic pancreas or lipomas, mainly because submucosal masses usually have a normal overlying mucosa surface. Therefore, EUS has been proposed as an alternative to conventional endoscopy (through which only superficial biopsies can be obtained by forceps), not only to visualize the layer of origin, but also to obtain deeper EUS-guided biopsies [4].

The clinical course in our patient was remarkable because in retrospect the GIST was already seen during initial GDS, but was interpreted as benign ectopic pancreas. Ectopic pancreas (also named aberrant pancreas, heterotopic pancreas, pancreatic rest) are uncommon and usually benign submucosal tumors consisting of pancreatic tissue. Ectopic pancreas is mostly seen in the proximal gastrointestinal tract (stomach, duodenum and jejunum, respectively). The majority is asymptomatic, but obstruction, bleeding or malignant development have been reported. Endoscopic view typically shows a central umbilication representing the draining duct [5]. In our case, the central erosion seen during initial endoscopy did not reveal any signs of

bleeding and was interpreted as a central umbilication of an ectopic pancreas. Therefore no biopsies or EUS were performed.

GISTs appear endoscopically as submucosal masses with usually central ulceration. Three types of GIST are differentiated: spindle cell, epithelioid and mixed. Immuno-

phenotypic features distinguish GISTs from other mesenchymal neoplasms (for example leiomyosarcomas, lipomas and liposarcomas). GISTs typically express the tyrosin kinase receptor c-kit (CD117) in more than 90% of the cases and have KIT (80%) or PDGFRA mutations (10%), another tyrosine kinase receptor. Transmembrane receptor tyrosine kinase acts as a proto-oncogene. The majority of the GISTs also express CD34 which links them to the interstitial cells of Cajal (pacemaker cells of the gastrointestinal tract). Risk stratification is recommended for GIST using tumor size and mitotic count, but also tumor site [6]. GISTs located in the small intestine or rectum, lower mitotic count and smaller size are associated with a favorable clinical behavior. To determine the local extent of GIST and presence of metastasis, a CT scan is recommended. Surgery is the treatment of choice. In case of unresectability, metastasis or recurrent disease tyrosin kinase inhibitors (imatinib or sunitinib) are recommended. After complete resection adjuvant tyrosin kinase inhibitors should also be considered in case of high risk GISTs. Radiotherapy and chemotherapy are not effective in treating GISTs. A computed tomography (CT) scan is recommended for the follow up and detection of recurrent disease. Follow-up schemes depend on risk stratification mentioned earlier, presence of metastasis and surgical resectability.

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## Premature babies have higher psychiatric risk

Fox News, 01 June 2012

Babies born prematurely have a much higher risk of developing severe mental disorders including psychosis, bipolar disorder and depression, according to a study to be published on Monday.

Scientists in Britain and Sweden found that people born very prematurely - at less than 32 weeks' gestation - were three times more likely than those born at term to be hospitalized with a psychiatric illness at aged 16 and older.

The researchers think the increased risk may be down to small but important differences in brain development in babies born before the full 40 week gestation period.

The risk varied depending on the condition - psychosis was 2.5 times more likely for premature babies, severe depression 3 times more likely, and bipolar disorder 7.4 times more likely for those born before 32 weeks.

The study, to be published in the Archives of General Psychiatry journal, also found smaller but significant increased psychiatric risks for babies born only moderately early, at between 32 and 36 weeks.

Chiara Nosarti from the Institute of Psychiatry at King's College London, who led the research, said it showed "a very strong link" between premature birth and psychiatric disorders.

"Since we considered only the most severe cases that resulted in hospitalization, it may be that in real terms this link is even stronger," Nosarti told reporters at a briefing.

She stressed, however, that: "The majority of individuals who are born prematurely have no psychiatric or cognitive problems are absolutely healthy and well functioning."

The disorders affect between 1 and 6 percent of the population as a whole, she said.

Nosarti worked with researchers at the Karolinska Institute in Sweden and analyzed data from 1.3 million medical records in Sweden between 1973 and 1985 to find all those admitted to hospital with their first episode of a psychiatric disorder by 2002.

A United Nations-backed report in May said 15 million babies were born prematurely in 2010, and rates of the phenomenon are soaring around the world partly because of advances in medicine which allow even extremely premature babies to survive.



Ref: www.foxnews.com

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We have been organizing scientific seminars in different medical institutes to enriched our **"Continuing Medical Education"** (CME) Program among doctors community in Bangladesh. In this section, we have include some of recent CME programs from different medical institutes of Bangladesh.



Scientific Seminar on "Management of Post Operative Pain" at Dhaka National Medical College Hospital, Dhaka held on 28<sup>th</sup> May, 2012



Scientific Seminar on "Superiority of Esomeprazole over other PPI" at Bandarban General Hospital, Cox's Bazar, held on 27<sup>th</sup> May, 2012



Scientific Seminar on "Superiority of Esomeprazole over other PPI" at La Aristocracy, Jamal Khan road, Chittagong, held on 17<sup>th</sup> May, 2012



Scientific Seminar on "Stroke Management" at City Hospital, Lalmatia, Dhaka held on 2<sup>nd</sup> April, 2012



Scientific Seminar on "Motor Neuron Disease's" at Physical Medicine Department of Shahid Sohrawardi Hospital, Dhaka, held on 18<sup>th</sup> April 2012



Scientific Seminar on "Cardio Vascular Surgery in rural area" at Zia Heart Foundation, Dinajpur held on 18<sup>th</sup> April, 2012



**Bioequivalence studies** are very important for the development of a pharmaceutical preparation in the pharmaceutical industry. Their rationale is the monitoring of pharmacokinetic and pharmacodynamic parameters after the administration of tested drugs. The target of such study is to evaluate the therapeutic compatibility of tested drugs (pharmaceutical equivalents or pharmaceutical alternatives). The importance of bioequivalence studies is increasing also due to the large growth of the production and consumption of generic products. Bioequivalence is a critical factor in determining the Efficacy, Safety & Quality of all medicines.

**Apex Pharma Limited formed a Clinical Alliance for Bioequivalence Studies with ICDDR,B on 10<sup>th</sup> August, 2011.**



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