Greetings from Blue Cross!

My team and I wish you and your loved ones a Happy New Year. We at Blue Cross wish the New Year brings with it lots of happiness, peace, and prosperity. May you attain everything that you aspire for and dream.

We are immensely grateful to our readers for their constant praises and suggestions. Indeed, based on your suggestions, we have included two tutorials - Diabetic Peripheral Neuropathy (DPN) and GERD. As always, we have included several snippets that will keep you abreast with the latest happenings in our field.

It is indeed very satisfying to know that many of you are indeed waiting eagerly for the next issue of Medical Bulletin. We are truly overwhelmed by your response. Do continue to write to us – your suggestions and comments are most treasured.

Cheers,

Dr. Kiran Dabholkar, M.D.(Bom), D.G.O., F.C.P.S.
Medical Director & Editor-in-Chief

Call me: 022-66638043 / 9167008017
Mail me: kiran.dabholkar@bluecrosslabs.com
Post me: Blue Cross Laboratories Ltd., Peninsula Chambers, Ganpatrao Kadam Marg, Lower Parel, Mumbai 400 013

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Dengue Vaccine might become available soon

The world’s first dengue vaccine is up for registration and may be available in the country by July next year. Sanofi, which has been working on a dengue vaccine for more than 20 years now, will be manufacturing it from France.

The company would apply for licenses with the health authorities of various countries where dengue is prevalent. This will help the company to distribute the vaccines in countries where dengue is a public health priority. The vaccine will boost efforts of various countries to reduce dengue deaths by 50% in the next five years.

Based on studies, the vaccine has an overall efficacy of 60.8% against symptomatic dengue fever in children and adolescents who are given three doses of the vaccine. Analysis also showed a 95.5% protection against severe dengue fever as well as 80.3% reduction in the risk of hospitalization. Clinical studies for the dengue vaccine were conducted in 10 endemic countries in Asia, including the Philippines, with over 31,000 participants.

Medical experts said the vaccine could prevent hospitalization of dengue patients. There is no specific treatment available for dengue at the moment and it is estimated that 500,000 people worldwide are hospitalized yearly due to the disease. Most of the cases were males and young people from five to 14 years old.

NCDs, mental illnesses to cost India $4.58 trillion by 2030

Cardiovascular diseases, mental health are major contributors to economic impact of non-communicable diseases, according to a report by World Economic Forum and Harvard School of Public Health. An estimated 60% of all deaths in India are due to NCDs like heart diseases, according to the World Health Organization.

Non communicable diseases (NCDs) and mental illness will cost India $4.58 trillion between 2012 and 2030, according to this report. Cardiovascular diseases ($2.17 trillion) and mental health ($1.03 trillion) are the major contributors to the economic impact of NCDs.

Ill health affects economic growth in several ways such as early retirement, negative expectations regarding employment and reduced productivity. The disease burden also leads to increase of expenditure for health system, individuals and households.

Prevalent NCDs also include chronic respiratory diseases, cancer and diabetes. Diabetes is one of the fastest growing diseases in India. In 2012, more than 63 million people in the country were living with type 2 diabetes.

NCDs represent the main cause of mortality and morbidity among older people in both developing and developed countries, particularly in India. NCDs are caused by factors such as tobacco use, harmful use of alcohol, lack of physical activity and poor diet. Among these factors, tobacco use is the most prevalent in people suffering from NCDs.

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Nerve damage from diabetes is called diabetic neuropathy. About half of all people with diabetes have some form of nerve damage. It is more common in those who have had the disease for a number of years and in whom the blood glucose is poorly controlled. It can lead to many kinds of problems, including diabetic foot.

If one keeps blood glucose levels on target, one may help prevent or delay nerve damage. Further, if one already has nerve damage (neuropathy), a reasonably tight blood glucose level will help prevent or delay further damage. There are also other treatments that can help.

**Diabetic Neuropathy (Nerve Damage)**

**Diabetic Peripheral Neuropathy (DPN):**

Symptoms of DPN include:
- Tingling
- Pain or Increased Sensitivity
- Numbness or Weakness

Steps to Prevent or Delay Nerve Damage:

- Keep Blood Glucose Levels in Target Range: There’s a lot one can do to prevent or delay nerve damage. And, if a patient already has diabetic neuropathy (nerve damage), these steps can prevent or delay further damage and may lessen the symptoms.
- Keep Blood Glucose Levels in Target Range: Meal planning, physical activity and medications - all these can help achieve target blood glucose levels. There are two ways to keep track of blood glucose levels: (a) Use a blood glucose meter and (b) A1C test at least twice a year to find out the average blood glucose for the past 2 to 3 months.
- Report symptoms of diabetic neuropathy: If one has problems, get treatment right away. Early treatment can help prevent more problems later on. For example, if a foot infection is treated early, it can help prevent amputation.
- Take good care of feet or Check your feet every day: If you no longer can feel pain in your feet, you might not notice a foot injury. Instead, use your eyes to look for problems. Using a mirror to see the bottoms of your feet, and using your hands to feel for hot or cold spots, bumps or dry skin. Look for sores, cuts or breaks in the skin. Also check for corns, calluses, blisters, red areas, swelling, ingrown toenails and toenail infections.
- Protect your feet. If your feet are dry, use a lotion on your skin but not between your toes. Wear shoes and socks that fit well and wear them all the time. Use warm water to wash your feet, and dry them carefully afterward.
- Get special shoes, if needed. These are available with clinics that provide more advanced care to diabetics.

**Diagnosis**

Foot Exams: These are of paramount importance. Doctor should look at the feet at every visit to check for injuries, ulcers, blisters or any other problems. Importantly, patients must take off their shoes and socks when they are in their doctor’s exam room.

Complete foot exam is a must at least once a year. If patient already has foot problems, these foot examinations need to be performed more often. A complete foot exam includes a check of the skin on the feet, foot muscles and bones, and the blood flow (feel the arteries of lower extremities). It is desirable that the doctor checked for numbness in the feet by touching it with a monofilament. One may use a tuning fork instead.

Nerve Conduction Studies and Electromyography (EMG): If there is a strong suspicion of nerve damage, these tests will assess how well the nerves in the arms and legs are working. Nerve conduction studies check the speed with which nerves send messages. An EMG checks how the nerves and muscles work together.

**Treatment of DPN:**

It is important to keep blood glucose levels in the target range. Many people get depressed when they have nerve damage and may need medication for depression as well as counseling.

**Medications:** Medications to relieve pain and reduce burning, numbness and tingling are available. Many of these drugs are also used as anticonvulsants.
GERD

Gastroesophageal reflux disease (GERD) is a chronic digestive disease. GERD occurs when stomach acid or, occasionally, stomach contents, flows back into the esophagus. The backwash (reflux) irritates the lining of the esophagus and causes GERD. It is caused by frequent acid reflux — the backup of stomach acid or bile into the esophagus.

Both heartburn and acid reflux are common digestive conditions. When these signs and symptoms occur at least twice each week or interfere with patient’s daily life, or when there is damage to esophagus, it calls for diagnosis of GERD.

Most people can manage the discomfort of GERD with lifestyle changes and over-the-counter (OTC) medications. But some people with GERD may need stronger medications, or even surgery, to reduce symptoms.

GERD signs and symptoms include:

- A burning sensation in the chest (heartburn), sometimes spreading to the throat, along with a sour taste in the mouth
- Chest pain
- Difficulty swallowing (dysphagia)
- Dry cough
- Hoarseness or sore throat
- Regurgitation of food or sour liquid (acid reflux)
- Sensation of a lump in the throat

It cannot be over-emphasized that patients must seek immediate medical attention if they experience chest pain, particularly if there are other signs and symptoms, such as shortness of breath or jaw or arm pain. These may be signs and symptoms of a heart attack.

An appointment with the doctor is mandated if patients experience severe or frequent GERD symptoms or if patients take OTC medications for heartburn more than twice a week.

When one swallows, the lower esophageal sphincter or the LES — a circular band of muscle around the bottom part of the esophagus — relaxes to allow food and liquid to flow down into the stomach. Then it closes again. However, if LES relaxes abnormally or weakens, stomach acid can flow back up into the esophagus, causing frequent heartburn. This constant backwash of acid irritates the lining of the esophagus, causing it to become inflamed (esophagitis). Over time, the inflammation can wear away the esophageal lining, causing complications such as bleeding, esophageal narrowing or Barrett’s esophagus (a precancerous condition).

Conditions that can increase the risk of GERD include:

- Obesity
- Hiatal hernia - Bulging of top of stomach up into the diaphragm
- Pregnancy
- Smoking
- Dry mouth
- Asthma
- Diabetes
- Delayed stomach emptying

Complications of GERD:

Over time, chronic inflammation in the esophagus can lead to complications, including:

- Esophageal stricture or narrowing of the esophagus.
- Esophageal ulcer or an open sore in the esophagus. The ulcer may bleed, cause pain and make swallowing difficult.
- Precancerous changes to the esophagus (Barrett’s esophagus). In Barrett’s esophagus, the tissue lining the lower esophagus changes. These changes are associated with an increased risk of esophageal cancer.

Diagnosis of GERD:

Symptoms – Most often, the doctor will be able to diagnose GERD based on frequent heartburn and other symptoms.

A test to monitor the amount of acid in the esophagus. Ambulatory acid (pH) probe tests use a device to measure acid for 24 hours. The device identifies when, and for how long, stomach acid regurgitates into the esophagus.

If a surgery is contemplated for managing GERD, patient may be asked to take the following tests:

- Barium swallow: An X-ray of the upper digestive system.
- Endoscopy (OGD scopy): A flexible tube is passed through the esophagus to view the lining of the esophagus, stomach, and duodenum. During endoscopy, a thin, flexible tube equipped with a light and camera (endoscope) is inserted down the throat. Endoscopy also helps to collect a sample of tissue (biopsy) for further testing. It is useful in looking for complications of reflux, such as Barrett’s esophagus.

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GERD (Contd from pg 3)

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Esophageal manometry: This is a test that measures the movement of the esophagus. Esophageal motility testing (manometry) measures movement and pressure in the esophagus.

Treatment for heartburn and other signs and symptoms of GERD:
It usually begins with OTC medications that control acid. If patient fails to experience relief within a few weeks, s/he may need other treatments, including prescription medications and/or surgery.

Initial treatments to control heartburn: OTC treatments that may help control heartburn include: Antacids that neutralize stomach acid. Although antacids provide quick relief, antacids alone won’t heal an inflamed esophagus damaged by stomach acid. Overuse of some antacids may even cause side effects, such as diarrhea or constipation.

Medications to reduce acid production: Called H-2 receptor blockers or H2RAs. These medications include ranitidine, famotidine or nizatidine. H2RAs don’t act as quickly as antacids do, but they provide longer relief and may decrease acid production from the stomach for up to 12 hours.

Medications that block acid production and heal the esophagus. Proton pump inhibitors (PPIs) are stronger blockers of acid production than H2RAs and allow time for damaged esophageal tissue to heal. These include Omeprazole, Pantoprazole or Rabeprazole and Esomeprazole. Although these agents generally relieve the symptoms in a few days, PPIs are required to be taken for nearly 2 months for healing of the esophageal ulcers. PPIs are generally well-tolerated, but long-term use may cause side effects, such as diarrhea or constipation.

Medications to strengthen LES: Domperidone and other prokinetic agents do provide additional help by enhancing the action of LES and provide tight closure of LES. Thus, these drugs prevent reflux of stomach acid. Additionally, these agents also drive the food past the pylorus into the small intestine.

GERD medications are sometimes combined to increase effectiveness.

Surgery and other procedures: Surgery is used only if medications don’t help

Lifestyle changes may help reduce the frequency of heartburn.
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Maintain a healthy weight. Excess weight puts pressure on the abdomen, pushing up the stomach and causing acid to back up into the esophagus. If patient is overweight or obese, s/he needs to work to slowly lose weight — no more than 1 or 2 pounds (0.5 to 1 kilogram) a week.

Avoid tight-fitting clothing. Clothes that fit tightly around the waist put pressure on the abdomen and the LES

Avoid foods and drinks that trigger heartburn. Common triggers such as alcohol, fatty or fried foods, tomato sauce, chocolate, mint, garlic, onion, and caffeine make heartburn worse. Avoid foods that are known to trigger heartburn.

Eat smaller meals. Avoid overeating by eating smaller meals.

Don’t lie down after a meal. Wait at least three hours after eating before lying down or going to bed.

Elevate the head of your bed. If a patient regularly experiences heartburn at night or while trying to sleep, place wood or cement blocks under the feet of your bed to raise the head end by 6 to 9 inches.

Don’t smoke. Smoking decreases the lower esophageal sphincter’s ability to function properly.

Relaxation therapies. Techniques to calm stress and anxiety may reduce signs and symptoms of GERD.

Acupuncture. Acupuncture involves inserting thin needles into specific points on the body. Limited evidence suggests it may help people with heartburn, but major studies have not proved a benefit.

Health Tip: Risk Factors for Heart Disease in Women

Heart disease is the leading cause of death among women in the United States. The U.S. National Heart, Lung, and Blood Institute has identified risk factors for heart disease in women. These include:

• Having diabetes, pre-diabetes or metabolic syndrome.
• Using birth control pills. • Smoking. • Having high cholesterol, high triglycerides or high blood pressure. • Being overweight or obese. • Living a sedentary lifestyle. • Eating a fatty diet. • Undergoing stress. • Being depressed.

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