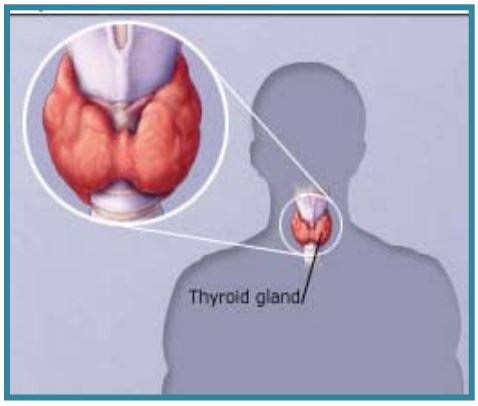
ASSIUT UNIVERSITY
DRUG INFORMATION BULLETIN

Ass. Uni. D.I. Bull.vol.7. No.2, August 2011

Graves' Disease

Graves' disease is the most common cause of hyperthyroidism due to circulating Thyroid-stimulating immunoglobulins (TSIs). Graves' disease is named after Robert.J.Graves in 1830. It is a disorder of the immune system that causes the thyroid gland to become overactive. It is an autoimmune disorder, which means that the body's immune system mistakenly attacks the body's own cells instead of protecting them from outside invaders. In Graves' disease, the body's immune system makes immunoglobulins that stimulate the thyroid gland to make too much thyroid hormone.



Doctors don't know what causes Graves' disease, but the fact that it tends to run in families indicates that the disease may have a genetic component. It is possible that the abnormal production of immunoglobulins is triggered by some unknown factor in the environment, and the immune system fails to stop this overproduction because of an inherited defect.

Graves' disease affects women more than men. It most frequently strikes between the ages of 20 and 40 but can occur at any age.

Symptoms

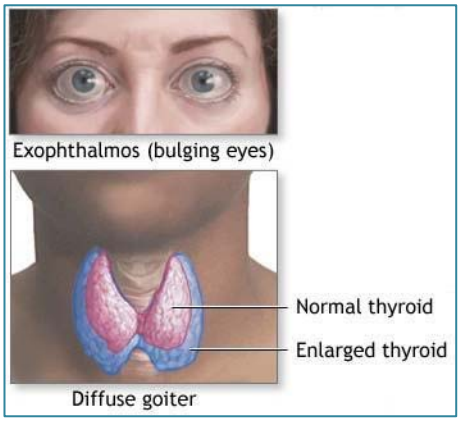
Graves' disease can cause the following symptoms:

- Nervousness
- Insomnia
- Emotional swings
- Sweating
- Hand tremor
- Palpitations
- Unexplained weight loss (often despite increased appetite)
- Sensitivity to warm temperatures (feeling hot all the time)
- Muscle weakness
- Shortness of breath

In This Issue

In women, menstrual periods may become less frequent or stop altogether. In older people, particularly people with heart disease, the disease may cause heart failure or angina.

Graves' disease also may cause:



- Goiter. Goiter is a swelling in the lower front portion of the neck caused by an enlarged thyroid gland.
- Eye symptoms. Graves' disease can cause swelling of tissues around the eyes, which creates a characteristic "staring" or "frightened" appearance. The eyes bulge out and the eyelids appear to be pulled back. There is less blinking. The person may have double vision, itching and weeping.
- Skin symptoms. Rarely, there may be swelling of the feet and lower legs. Skin in this swollen area may appear thicker and darker than normal skin.

Diagnosis

The doctor will look for physical evidence of Graves' disease, including goiter, eye signs and skin signs. Patient will be asked about recent weight loss, nervousness, tremors, increased sweating, palpitations, unusually frequent bowel movements, menstrual irregularities and whether you feel hot all the time. During physical examination, the doctor will feel the thyroid for abnormal nodules (lumps) and to see if it is enlarged. He also may use a stethoscope to listen for signs of abnormal blood flow near the thyroid gland. In other parts of the body, the doctor will check for additional signs of hyperthyroidism, including fast heart rate, irregular heart rhythm, hand tremor, fast reflexes when tendons are tapped with a soft hammer, and bulging eyes.

The doctor will order blood tests to determine whether the thyroid is producing too much hormone. If the doctor is concerned about potential eye problems, he may order a computed tomography (CT) scan or magnetic resonance imaging (MRI) scan of eyes. If the doctor thinks your heart is involved, an electrocardiogram (ECG) and/or other cardiac tests probably will be needed.

Expected Duration

Almost all patients with Graves' need treatment, at least initially. Symptoms related to the high levels of circulating thyroid hormone will quickly improve with medications such as beta blockers and tranquilizers. It takes several weeks for the action of anti-thyroid medications to lower thyroid blood levels toward normal. Anti-thyroid medication is continued for at least one year unless another treatment is used.

Prevention

There is no way to prevent Graves' disease.

Treatment

Treatment focuses on two goals: rapidly improving the hyperthyroid symptoms, and slowing the thyroid's production of thyroid hormone.

Symptoms of palpitations, increased heart rate, tremor and nervousness are treated with a beta-blocker medication such as propanolol (Inderal).

For anxiety and insomnia, the doctor may prescribe diazepam (Valium), lorazepam (Ativan) or a similar medication.

To stop the thyroid from producing too much hormone, there are three possible treatments: antithyroid medications, radioactive iodine and surgery.

Graves' disease is most often treated with the anti-thyroid drug methimazole (Tapazole, generic versions). Methimazole blocks the formation of thyroid hormones. Another anti-thyroid drug called propylthiouracil is also available. However, it should only be used in patients who cannot tolerate methimazole and in women just before and during their first trimester of pregnancy. Once thyroid hormone levels have reached normal, the doctor can decide whether to continue daily anti-thyroid medication or to choose radioactive iodine treatment.

Radioactive iodine is given by mouth. The paient would then have to take thyroid medication daily for the rest of his life. Because people who receive radioactive iodine therapy temporarily store a small amount of radiation in their thyroid, they need to avoid prolonged contact with pregnant women and children for several days following treatment. Radioactive iodine is concentrated in breast milk and women must stop breast feeding if they choose this therapy.

Surgery for Graves' disease is rarely done today. However, people with very large goiters are less likely to respond well to anti-thyroid medication or radioactive iodine, and may have a better outcome if most of the thyroid gland is removed surgically (subtotal thyroidectomy).

Patients with eye signs of Graves' disease may be given eye drops to keep the eyes moist and tinted eyeglasses to protect the eyes from sun, wind and dust. In people with severe eye symptoms, glucocorticoid medications may be necessary, either alone or together with radiation treatments to the muscles that control eye movement. Skin symptoms of Graves' disease may be treated with glucocorticoid creams and ointments.

Prognosis

Many patients remain well after a single course of anti-thyroid drugs, but recurrence can happen at any time. Radioactive iodide is very effective, but often results in abnormally low levels of thyroid hormones (hypothyroidism). Surgery also can cause low levels of thyroid hormones.
The eye signs of Graves' disease tend to improve with anti-thyroid drug treatment. However, some element of the staring appearance often remains.

Reference: intelihealth.com, emedicinezone.com

Terminology

Meibomianitis

Meibomianitis (Also called Meibomitis): Inflammation of the little glands called Meibomian glands which are a group of oil-secreting (sebaceous) glands in the eyelids. These glands have tiny openings to release oils onto the surface of the cornea. The lubricant is a fatty substance called sebum characteristic of sebaceous glands. Meibomianitis may be due to allergy, acne in adolescence, or rosacea. Chronic inflammation of the Meibomian glands leads to cysts, called chalazions. Treatment usually consists of lubricant eye drops, warm compresses to the eyes, and careful cleansing of the eyelids. An antibiotic ointment may be prescribed to apply to the edge of the eyelid.

Foods That Fight Alzheimer's Disease

A low-fat diet with a lot of salad dressing, nuts, poultry, and certain fruits and vegetables may help prevent Alzheimer's disease, according to a new study.

Researchers say evidence is mounting on which foods may prevent Alzheimer's disease. But because foods are not eaten in isolation and may work together to prevent disease, more information is needed on dietary patterns that reduce the risk of Alzheimer's disease.

In the study, published in the Archives of Neurology, researchers analyzed the dietary patterns of 2,148 people aged 65 and older living in New York. The participants gave information about their diets and were evaluated for signs of Alzheimer's disease and dementia every year and a half over a four-year period.
Researchers analyzed dietary intake for seven nutrients that have been shown in previous studies to be associated with dementia risk: saturated fatty acids, monounsaturated fatty acids, omega-3 fatty acids, omega-6 fatty acids, vitamin E, vitamin B12, and folate.

By the end of the study, 253 participants developed Alzheimer's disease. In particular, the study showed one particular dietary pattern was associated with a lower risk of Alzheimer's disease. The diet included low amounts of high-fat dairy products, red meat, organ meat, and butter. Foods that appeared to fight Alzheimer's disease were salad dressing, nuts, fish, poultry, tomatoes, fruits, cruciferous, dark and green vegetables.

Researchers say the combination of nutrients and foods in this particular dietary pattern may fight Alzheimer's in a variety of ways. For example, vitamin B12 and folate are homocysteine-related vitamins that may have an impact on Alzheimer's disease via their ability of reducing circulating homocysteine levels, vitamin E might prevent Alzheimer's disease via its strong antioxidant effect, and fatty acids may be related to dementia and cognitive function through atherosclerosis, thrombosis, or

inflammation via an effect on brain development and membrane functioning or via accumulation of beta-amyloid.

Reference: webmd.com

❀❀❀❀❀❀❀❀❀❀

FDA News

FDA Approves New Restless Legs Syndrome Drug

April 7, 2011 -- The FDA has approved a new drug, Horizant Extended Release Tablets, as a once-daily treatment for moderate-to-severe restless legs syndrome.

Restless legs syndrome (RLS) is a disorder that causes a strong urge to move the legs. People who have restless legs syndrome describe unpleasant feelings in their legs, such as pulling, itching, tingling, burning, or aching. Moving their legs temporarily relieves these feelings. The urge to move often happens when someone is inactive. The symptoms typically are worse in the evening and early morning.

The FDA approved Horizant based on two 12-week studies done in adults. Those studies showed improvement in restless legs syndrome patients taking Horizant compared to those taking a placebo.

Horizant's active ingredient is gabapentin enacarbil, which becomes gabapentin in the body. Gabapentin is an antiseizure drug that is also used to treat RLS. Lifestyle changes such as exercising, building healthy sleep habits, and cutting back on caffeine, alcohol, and tobacco are also recommended.

The FDA states that Horizant "may cause drowsiness and dizziness and can impair a person's ability to drive or operate complex machinery." Like all antiseizure drugs, Horizant will carry a warning about the risk that it may cause suicidal thoughts and actions in a small number of people. Horizant will also come with a medication guide outlining its uses and risks.

Horizant is not recommended for patients who must sleep during the daytime and remain awake at night, according to a news release from the drug companies GlaxoSmithKline and XenoPort, which developed the drug.

Reference: fda.gov

❀❀❀❀❀❀❀❀❀❀

Drug-Drug interactions

Amiodarone (Cordarone®) and Quinolones
Object Drug
Amiodarone (Cordarone®)
Precipitant Drug
Levofloxacin

Gemifloxacin
Moxifloxacin
Ofloxacin

Effect

Increased risk of TdP (torsade de pointes) and/or QTc (Corrected QT Interval) prolongation on ECG.

Mechanism

Concomitant blockade of cardiac potassium channels.

Related Drugs

Azithromycin (Zithromax®), clarithromycin (Biaxin®), erythromycin (E-Mycin®), and telithromycin (Ketek®) also have a possible risk of TdP and/or QTc prolongation on ECG

Options

Usually Avoid

Consider Alternatives: Alternative antimicrobials include ciprofloxacin (relatively lower risk QTc prolongation than other quinolones), penicillins, and cephalosporins.

Reference: azcert.org

❀❀❀❀❀❀❀❀❀❀❀

Test Your Knowledge

1- Ringworm maybe best described as:

A. a worm infestation of the skin
B. a bacterial infection
C. a tinea infection
D. scabies

2- Which of the following iron preparations is not available in an oral dosage form?

A. iron dextran
B. ferrous fumarate
C. ferrous gluconate
D. ferrous sulfate
E. polysaccharide- iron complex

3- Leflunomide is used to treat:

A. Crohn's disease.
B. Rheumatoid arthritis.
C. Psoriasis.
D. Photoallergic reaction.

4- Which of the following antidepressants also has an indication for smoking cessation?

A. Haloperidol
B. Bupropion
C. Citalopram
D. Mirtazipine
E. Paroxetine

(You will find the right answers at the bottom of the last page)

Real Enquiries

At the "Drug Information Center", we respond to enquiries from the professional health team as well as from others. Here's one of the enquiries received at the center!

Enquiry received from: Dr. Dina FathAlla-Lecturer at Pharmaceutics Dept., Faculty of Pharmacy, Assiut Univ.

Enquiry: Do fibrosed lung cells regenerate? Is lung fibrosis curable?

Summary of Answer:

The treatment options for idiopathic pulmonary fibrosis are very limited. There is no evidence that any medications can help this condition, since scarring is permanent once it has developed. Lung transplantation is the only therapeutic option available. At times, this diagnosis can be difficult to make even with tissue biopsy reviewed by pathologists with specific experience in this field. Research trials using different drugs that may reduce fibrous scarring are ongoing. Since some types of lung fibrosis can respond to corticosteroids (such as Prednisone) and/or other medications that suppress the body's immune system, these types of drugs are sometimes prescribed in an attempt to decrease the processes that lead to fibrosis.

❀❀❀❀❀❀❀❀❀❀

World Health Day – 7 April 2011

Antimicrobial resistance: no action today, no cure tomorrow

What is antimicrobial resistance?

Antimicrobial resistance or drug resistance is the ability of a microorganism to stop an antimicrobial from working against it. As a result, standard treatments become ineffective, infections persist and may spread to others. Drug resistance is a natural evolutionary phenomenon. When microorganisms are exposed to an antimicrobial, the more susceptible organisms succumb, leaving behind those resistant to the antimicrobial. They can then pass on their resistance to their offspring.

Drug resistance is a global problem.

Over the past years, the use and misuse of antimicrobials has increased the number and types of resistant organisms. Consequently many infectious diseases may one day become uncontrollable. With the growth of global trade and travel, resistant microorganisms can spread promptly to any part of the world.

Inappropriate use of medicines leads to drug resistance.

Inappropriate use of antimicrobials drives the development of drug resistance. Both overuse, underuse and misuse of medicines contribute to the problem. Ensuring that patients are informed about the need to take the right dosage of the right antimicrobial requires action from prescribers, pharmacists and dispensers, pharmaceutical

industry, the public and patients, as well as the policy makers.

Lack of quality medicines leads to drug resistance.

Most drug quality assurance systems are weak. This can lead to poor quality medicines, exposing patients to sub-optimal concentrations of antimicrobials, thus creating the conditions for drug resistance to develop. In some countries poor access to antimicrobials forces patients to take incomplete courses of treatment or to seek alternatives that could include substandard medicines.

Animal husbandry is a source of drug resistance.

Sub-therapeutic doses of antibiotics are used in animal-rearing for promoting growth or preventing diseases. This can result in resistant microorganisms, which can spread to humans.

Poor infection prevention and control amplifies drug resistance.

Poor infection prevention and control can increase the spread of drug-resistant infections. Hospitalized patients are one of the main reservoirs of resistant microorganisms. Patients who are carriers of resistant microorganisms can act as a source of infection for others.

Weak surveillance systems contribute to drug resistance.

Currently there are few well-established networks that regularly collect and report relevant data on drug resistance. Some countries lack laboratory facilities that can accurately identify resistant microorganisms. This impairs the ability to detect emergence of resistant microorganisms and take prompt actions.

The pipeline for new tools to combat drug resistance is drying up.

Existing antimicrobials are losing their effect. At the same time there is a decline in the development of new antimicrobials. Similarly, there is insufficient new research into new diagnostics to detect resistant microorganisms; and vaccines for preventing and controlling infections. If this trend continues, the arsenals of tools to combat resistant microorganism will soon be depleted.

WHO calls on stakeholders to combat drug resistance.

The threat from drug resistance is increasing. There is a need for urgent action; everyone can play a part. The complex problem of drug resistance requires collective action. On World Health Day, WHO is issuing a call for action to halt the spread of drug resistance by introducing a six-point policy package for all countries.

Answers:

1-(C) Tinea corporis is a fungal infection of the skin that often spreads in a circular lesion.

2-(A) Iron dextran is available for parenteral administration only.

3-(B) Leflunomide was approved for the management of rheumatoid arthritis in 1998 by the FDA

This Bulletin is produced by the Drug Information Center - Faculty of Pharmacy, Pharmaceutics Department, Assiut University. Tel.088/2357399 & 088/2411556
E-mail: clinipharm_assiut@yahoo.com, website: www.clinpharm.aun.edu.eg

OUR SPONSORS: EGYPTIAN INT.PHARMACEUTICAL INDUSTRIES CO.

& Medical Union Pharmaceuticals

رقم الايداع: ١٢٦٣٢ لسنة ٢٠٠٥