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Researcher warns of increased cancer risk with excess supplement use

The use of dietary supplements is common in the US, according to a National Health and Nutrition Examination Survey (NHANES). Researchers studied thousands of patients for 10 years who were taking dietary supplements and placebos," he says. "We found that the supplements were actually not beneficial for their health. In fact, some people actually got more cancer while on the vitamins."

Sources: **Honor Whiteman**

In this issue .. ..

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Medical News

New treatment for drug-resistant breast cancer

Researchers investigating the way in which HER2-positive breast cancer becomes resistant to treatment have made a surprising discovery concerning how this resistance develops. However, they may have also discovered a way to prevent this resistance from manifesting entirely.

The study, published in *Cell Reports* reveals a new combination therapy involving the commonly-used drug lapatinib and a novel experimental drug called a BET bromodomain inhibitor whose role is to disrupt the expression of certain genes. BET bromodomain inhibitors were demonstrated to prevent the development of resistance to lapatinib in cell lines of human HER2-positive breast cancer.

The combination treatments are currently being tested in different mouse models of breast cancer," explains senior author Gary Johnson, PhD. "Our goal is to create a new kind of therapy that could help oncologists make the response to treatment more durable and lasting for breast cancer patients."

Around 15-20% of breast cancer diagnoses belong to the HER2-positive subtype. Standard therapy only works well in one-third of patients with this form of cancer, and even then resistance eventually develops in most of these patients.

This is a typical problem faced by treatments that target kinases - specific proteins that are essential for cellular activities such as movement and division, and also drive the growth of tumors. In this form of cancer, HER2 is the primary kinase responsible for tumor growth.

Medical News (cont..)

Lapatinib works by blocking HER2, but when it does, cancer cells use other kinases to find a way around the blockage. Each cell line developed a resistance to the drug, but the manner in which it happened was surprising.

"It was amazing. Author found this massive up-regulation of many different kinases that could either reactivate the main HER2 signaling pathway or bypass it entirely. In fact, we discovered that nearly 20% of the cell's entire gene expression profile was dysregulated when we treated the cells with lapatinib."

The kinases that responded were not the same kinases from cell line to cell line, suggesting there is a variety of ways HER2-positive cancer cells can react and overcome blockage of HER2. The involvement of such a large number of different kinases is problematic for the researchers trying to develop effective forms of treatment.

'We blocked it before it could happen'

"Because of toxicity concerns, you couldn't inhibit all these kinases that potentially help cancer cells compensate in the face of an HER2 inhibitor," Stuhlmiller explains. "The more drugs you try to use, the more toxic that would be for patients and the lower the dose people would be able to tolerate."However, this was not the end of the story. The researchers found that they could use an entirely different drug to prevent the kinase response to lapatinib before it had even begun. BET bromodomain inhibitors belong to a new class of drug that target proteins involved in gene transcription - a process that leads to the creation of enzymes such as kinases.

The researchers tested a number of BET bromodomain inhibitors, with one already being utilized in clinical trials for drugs to treat blood cancer and leukemia. During these tests, they discovered that the drug disrupted the gene transcription of many of the kinases involved with resistance.

When a BET bromodomain inhibitor was combined with lapatinib, not only was the HER2 kinase blocked but the massive kinase response that had previously been observed did not occur, leading to the deaths of the cancer cells**.**"We blocked it before it could happen," explains Stuhlmiller. "In all five cell lines we tested, there were no cancer cells left because the combination therapy blocked their growth. Essentially, we made the activity of lapatinib durable."The researchers are now attempting to replicate these findings in animal models of HER2-positive breast cancer. In addition, the team are studying the effects of BET bromodomain inhibitors on other forms of breast cancer including triple-negative breast cancer, which is notoriously difficult to treat."We believe epigenetic enzyme-targeting drugs will be key to preventing resistance rooted in kinome reprogramming, thus making the action of kinase inhibitors durable," conclude the authors. "With at least four BET bromodomain inhibitors in clinical trials, testing of a BET bromodomain inhibitor to block adaptive responses induced with kinase inhibitors is a possibility

Written by: James McIntosh

Warfarin withdrawal in atrial fibrillation patients awaiting surgery dramatically ups stroke risk

Researchers have quantified the risk of ischemic stroke in patients with atrial fibrillation when warfarin is discontinued for surgical procedures. They evaluated the association of warfarin discontinuation for surgical procedures with the incidence of ischemic stroke in a cohort of patients with nonvalvular atrial fibrillation. All subjects had been randomized into the Atrial Fibrillation Follow-Up Investigation of Rhythm Management (AFFIRM) study.

Stroke is the 4th leading cause of death in the US, with one person dying every 4 minutes as a result. Approximately 800,000 people have a stroke each year; about one every 4 seconds. Only heart disease, cancer and chronic lower respiratory diseases are more deadly.[1-3]

Strokes occur due to problems with the blood supply to the brain; either the blood supply is blocked or a blood vessel within the brain ruptures. A stroke is a medical emergency, and treatment must be sought as quickly as possible. However atrial fibrillation is *"fibrillation in which the normal rhythmic contractions of the cardiac atria are replaced by rapid irregular twitching's of the muscular wall; the ventricles respond irregularly to the dysrhythmic bombardment from the atria."*

After controlling for potential confounders including age, gender, obesity, diabetes mellitus, hypercholesterolemia and cigarette smoking, warfarin cessation was associated with an increased risk for ischemic stroke (relative risk: 5.6, 95% CI, 1.8 to 17.8 p=0.003) in 4,060 patients who were followed for a mean of 3.5 years.

Researchers reported the findings at the 67th Annual Meeting of the American Academy of Neurology.

Subjects included in the analysis had atrial fibrillation plus at least one additional risk factor for stroke or death: age >65 years, systemic hypertension, diabetes, congestive heart failure, transient ischemic attack, prior stroke, left atrium diameter 50+ mm, left ventricular fractional shortening <25%, or left ventricular ejection fraction <40%. Before the present study, the risk of ischemic stroke during periods of warfarin discontinuation for surgical procedures had long been acknowledged but not well characterized, Dr. Qureshi said. The analysis demonstrated that the ischemic stroke rate was 1.1% and 0.2% for individuals with and without warfarin discontinuation, respectively, P=0.001.

Written by: ***Jill Stein***

FDA approves Corlanor to treat heart failure

April 15, 2015

The U.S. Food and Drug Administration approved Corlanor (ivabradine) to reduce hospitalization from worsening heart failure. Corlanor is approved for use in certain people who have long-lasting (chronic) heart failure caused by the lower-left part of their heart not contracting well. The drug is indicated for patients who have symptoms of heart failure that are stable, a normal heartbeat with a resting heart rate of at least 70 beats per minute and are also taking beta blockers at the highest dose they can tolerate. The safety and efficacy of Corlanor was studied in a clinical trial of 6,505 participants. Corlanor reduced the time to first occurrence of hospitalization for worsening heart failure compared to an inactive drug (placebo). The most common side effects observed in clinical trial participants were too much slowing of the heart rate (bradycardia), high blood pressure (hypertension), atrial fibrillation, and temporary vision disturbance (flashes of light).

Corlanor will be dispensed with a patient Medication Guide that provides instructions for its use and important drug safety information. Health care professionals should counsel patients about the risk of harm to an unborn baby, and women should not become pregnant while taking Corlanor. Patients should alert their health care professional if they experience symptoms of an irregular heartbeat, feel that the heart is pounding or racing, have chest pressure, or worsened shortness of breath. Low heart rate is a common side effect of Corlanor and can be serious. Patients should tell their health care professional if they have symptoms such as dizziness, weakness or fatigue.

Source: U.S. Food and Drug Administration

FDA approves first-of-its-kind corneal implant to improve near vision in certain patients

The U.S. Food and Drug Administration approved the KAMRA inlay, a device implanted in the cornea of one eye (the clear, front surface) to improve near vision in certain patients with presbyopia. It is the first implantable device for correction of near vision in patients who have not had cataract surgery. Presbyopia is the loss of the ability to change the focusing power of the eye. It occurs with normal aging and results in difficulty with near vision, generally in adults 40 to 50 years of age. The KAMRA inlay is an opaque, ring-shaped device intended for use in patients 45 to 60 years old who, in addition to not having had cataract surgery, are unable to focus clearly on near objects or small print and need reading glasses with +1.00 to +2.50 diopters of power—but do not need glasses or contacts for clear distance vision. To evaluate the safety and efficacy of the KAMRA inlay, the FDA reviewed the results of three clinical studies. The results of the main study showed that 83.5 percent of the evaluable 478 participants achieved uncorrected near visual acuity of 20/40 or better at 12 months. This is the level of vision needed to read most text in magazines and newspapers.

The KAMRA inlay may cause or worsen dry eye and various vision-related problems, such as glare, halos, night vision problems, and blurry vision. It also can cause corneal complications such as swelling, clouding, thinning and potential perforation, and challenges evaluating and managing eye problems. The KAMRA inlay is manufactured by AcuFocus Inc., based in Irvine, California.

Source: ***U.S. Food and Drug Administration***

Feraheme (ferumoxytol): Drug Safety Communication – Warnings Strengthened and Prescribing Instructions Changed

ISSUE: FDA is strengthening an existing warning that serious, potentially fatal allergic reactions can occur with the anemia drug Feraheme (ferumoxytol). FDA changed the prescribing instructions and approved a Boxed Warning, FDA's strongest type of warning, regarding these serious risks. Also added is a new Contraindication, a strong recommendation against use of Feraheme in patients who have had an allergic reaction to any intravenous (IV) iron replacement product.

All IV iron products carry a risk of potentially life-threatening allergic reactions. At the time of Feraheme's approval in 2009, this risk was described in the Warnings and Precautions section of the drug label. Since then, serious reactions, including deaths, have occurred despite the proper use of therapies to treat these reactions and emergency resuscitation measures (Drug Safety Communication/Data Summary). FDA evaluated this risk further and has identified ways to reduce the risk of serious allergic reactions with Feraheme.

FDA is continuing to monitor and evaluate the risk of serious allergic reactions with all IV iron products, and we will update the public as new information becomes available.

BACKGROUND: Feraheme is in a class of medicines called IV iron replacement products. It is used to treat iron-deficiency anemia—a condition in which there is a lower than normal number of oxygen-carrying red blood cells because of too little iron. Feraheme is specifically approved for use only in adults with iron deficiency anemia in patients with chronic kidney disease.

RECOMMENDATIONS: Based on FDAs evaluation, the prescribing instructions and other label information were updated, adding a Boxed Warning that describes these serious risks and recommending that health care professionals:

- Only administer IV iron products to patients who require IV iron therapy.
- Do not administer Feraheme to patients with a history of allergic reaction to Feraheme or other IV iron products.
- Only administer diluted Feraheme as an IV infusion over a minimum of 15 minutes. Feraheme should not be given as an undiluted IV injection.
- Closely monitor patients for signs and symptoms of serious allergic reactions, including monitoring blood pressure and pulse during Feraheme administration and for at least 30 minutes following each infusion.
- Carefully consider the potential risks and benefits of Feraheme administration in elderly patients with multiple or serious medical conditions, as these patients may experience more severe reactions.
- Carefully consider the potential risks and benefits of Feraheme administration in patients with a history of multiple drug allergies. Patients with multiple drug allergies may also be at higher risk.

Source ***U.S. Food and Drug Administration***

FDA approves breath test to aid in diagnosis of delayed gastric emptying

The U.S. Food and Drug Administration approved the Gastric Emptying Breath Test (GEBT), a new non-invasive test to aid in the diagnosis of delayed gastric emptying, known as gastroparesis. Current tests used to diagnose gastroparesis typically involve the use of a small amount of radioactive material or imaging equipment, so testing must be conducted in specialized outpatient centers. The GEBT can be used in broader settings.

"The GEBT is another option for aiding in the diagnosis of gastroparesis," said Alberto Gutierrez, Ph.D., director of the Office of In Vitro Diagnostics and Radiological Health in the FDA's Center for Devices and Radiological Health. "It can be performed in any clinical setting since it does not require the health care professionals administering the test to undergo special training or to take special precautions related to radiation emitting compounds."

Gastroparesis is a disorder that slows or stops the movement of food from the stomach to the small intestine when muscles in the stomach are not contracting properly. It is caused by damage to the vagus nerve that controls the muscles of the stomach and small intestine, often as a result of intestinal surgery, neurological diseases such as Parkinson's disease and multiple sclerosis, or high blood glucose levels due to diabetes. If left untreated, gastroparesis can lead to problems such as severe dehydration due to persistent vomiting, difficulty managing blood sugar levels in people with diabetes, and malnutrition due to poor absorption of nutrients or a low caloric intake. The GEBT, conducted over a four-hour period after an overnight fast, is designed to show how fast the stomach empties solids by measuring carbon dioxide in a patient's breath. Patients have baseline breath tests conducted at the beginning of the test. They then eat a special test meal that includes a scrambled egg-mix and Spirulina platensis, a type of protein that has been enriched with carbon-13, which can be measured in breath samples.

Carbon-13 is a naturally existing non-radioactive form of the common element carbon-12. Both carbon-12 and a very small amount of carbon-13 are normallyfound in exhaled carbon dioxide. By adding carbon-13 to the test meal, the GEBT can determine how fast the stomach empties the meal by measuring the ratio of carbon-13 to carbon-12 collected in breath samples at multiple time points after the meal is consumed compared to baseline.

To support the safety and effectiveness of the GEBT, researchers conducted a clinical study using data from 115 participants who would typically undergo a gastric emptying test. All participants underwent testing with both the GEBT and gastric scintigraphy, the standard of care for measuring gastric emptying that requires ingestion of a test meal containing a radioactive material. Researchers compared diagnostic results from both the GEBT and scintigraphy and found that GEBT results agreed with scintigraphy results 73-97 percent of the time when measured at various time points during the test. No deaths or serious adverse events occurred during clinical studies. Some study participants reported nausea and stomach discomfort during the test. People with hypersensitivity to Spirulina, egg, milk or wheat allergens should avoid the GEBT. The test also should not be administered to people with certain lung diseases or conditions that cause small bowel malabsorption. The GEBT is manufactured by Advanced Breath Diagnostics, based in Brentwood, Tenn. The FDA, an agency within the U.S. Department of Health and Human Services, protects the public health by assuring the safety, effectiveness, and security of human and veterinary drugs, vaccines and other biological products for human use, and medical devices. The agency also is responsible for the safety and security of our nation's food supply, cosmetics, dietary supplements, products that give off electronic radiation, and for regulating tobacco products.

Source: ***U.S. Food and Drug Administration***

"الغذاء والدواء" تحذر من مستحضر (Xian Ling) للروماتيزم يحمل ادعاءات مضللة

1436/05/13

حذرت الهيئة العامة للغذاء والدواء، من مستحضر (Xian Ling) الذي تسوقه محال عطارة وباعة متجولون ومواقع تواصل اجتماعي على أنه مستحضر طبيعي لتسكين الألم وللروماتيزم، في حين أنه يحمل ادعاءات مضللة، ومغشوش بمادتين، تسببان تأثيرات سلبية وأعراضاً جانبية. وأوضحت الهيئة في بيان، أن تحاليل مختبراتها أظهرت غش المستحضر بإضافة مادة (Paracetamol) وهي مادة مسكنة للألم لها تأثيرات سلبية على الكبد والكلى في حال زيادة الجرعة أو استخدامها لفترات طويلة، ومادة (Cholorophineramine) وهي من المواد المضادة للحساسية ولها أعراض جانبية مثل زغللة العيون، وسرعة ضربات القلب، وآلام المعدة، وفقدان التوازن.

"الغذاء والدواء" تحذر من مستحضر للتنحيف لغشه بمادة محظورة

1436/05/12

حذرت الهيئة العامة للغذاء والدواء، من مستحضر يحمل اسم بايوجي(Paiyouji natural slimming capsule) الذي تسوقه محال عطارة وباعة متجولون ومواقع تواصل اجتماعي على أنه مستحضر طبيعي لإنقاص الوزن والتنحيف، في حين أنه مغشوش بمادة دوائية محظورة ويحمل ادعاءات مضللة.

"الغذاء والدواء" تنبه مستخدمي أشرطة قياس السكر "أكيو-شيك كومباكت" وأجهزة أكيو-شيك موبايل الذين يتناولون "سيفترياكسون"

1436/05/11

نبهت الهيئة العامة للغذاء والدواء،مرضى السكري الذين يتناولون المضاد الحيوي سيفترياكسون (Ceftriaxone) إلى أن استخدام أشرطة فحص مستوى السكر في الدم من طراز أكيو-شيك كومباكت(Accu-Chek® Compact) وأجهزة فحص مستوى السكر في الدم من طراز أكيو-شيك موبايل(Accu-Chek® Mobile)، يمكن أن تعطي قراءات منخفضة خاطئة لمستوى السكر في الدم. وأوصت الهيئة جميع المختصين والمستخدمين بتجنب استخدام هذين المنتجين واستبدالهما بأجهزة ومنتجات أخرى بديلة طيلة فترة خضوعهم للعلاج المحتوي على هذا المضاد. ودعت إلى التواصل مع الموزع المحلي شركة روش لرعاية السكري على الرقم المجاني (٨٠٠٢٤٤٣٢١٠) في حال وجود أي استفسار.

"الغذاء والدواء" تنبه من خلل في مضخة حقن أنسولين لعلاج ارتفاع السكري

1436/05/26

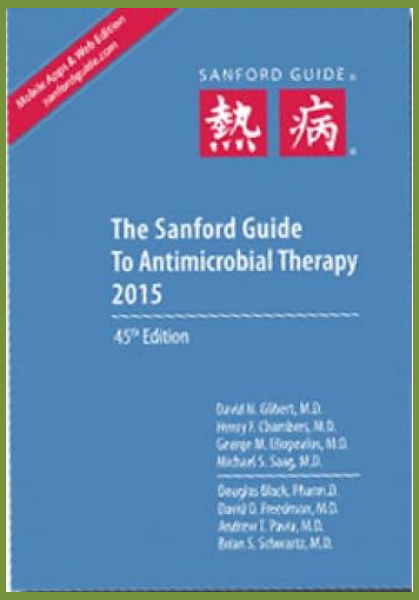
نبهت الهيئة العامة للغذاء والدواء مستخدمي مضخة حقن الأنسولين "أنيماس فيب" (Animas Vibe) التي تنتجها شركة أنيماس كوربوريشن، وتستخدم لحقن الأنسولين المستمر تحت الجلد لعلاج ارتفاع سكر الدم، من احتمال تسببها في فقد تحذيرات تفريغ الأنابيب من الهواء وفقد تنبيه توقف الضخ وعدم قدرة المضخة على التعرف على عبوة الأنسولين. وأوصت "الغذاء والدواء" بالتوقف عن استخدام الطرازات المتأثرة، لافتة إلى أن مضخة حقن الأنسولين هذه غير مرخصة من الهيئة، ولم يتم فسحها عبر المنافذ الحدودية، ولكن قد يكون المستهلك حصل عليها من مصادر أخرى.

المصدر: *الهيئة العامة للغذاء والدواء*

Scientific Books: New Release

The Sanford guide to anti-microbial therapy

(David N., M.D. Gilbert)



The classic pocket reference in print is in its 45th edition for 2015. Content is organized in tables that cover all aspects of treatment plus comprehensive anti-infective drug information and many useful tools. Recommendations are evidence-based and extensively referenced. Generations of physicians have relied on this edition to help them make informed treatment decisions at the point of care.

The content has been updated to reflect current best-evidence recommendations for treatment of bacterial, fungal, mycobacterial, parasitic and viral infections, newly approved drugs, Available in print in pocket size, spiral bound and large library editions.

If you want to receive the DPIC bulletin in your E-mail please contact us via: *malarifi@ksu.edu.sa*

Upcoming Conferences

- 24th - 25th April 2015 clinical pharmacy congress in London, United kingdom.
- 5th - 8th May 2015 The 15th International Congress of the International Society for Ethno pharmacology. Petra Jordan.
- 19th – 20th May 2015 Bioavailability/Bioequivalence, Dissolution Testing and Bio waivers. Dorint Hotel Don Giovanni, Prague, Czech Republic.
- 15th – 17th June System Approaches for Better Medicines and Health . Campus Biotech, Sweden

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Address / Correspondence: Drug& Poison Information Center, College of Pharmacy, King Saud University. P.O. Box 2457 Riyadh 11451, Saudi Arabia. Tel: 4677352, 4677353, 4677354Fax: 4676229E-mail: *malarifi@ksu.edu.sa*

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