

New for diabetes: Synjardy

Synjardy (Manufacturer: Boehringer Ingelheim) is now available as SGLT2 inhibitor Empagliflozin (Jardiance) in combination with Metformin for the treatment of Type II diabetes. Synjardy (fixed-dose combination of empagliflozin/metformin) is licensed in the treatment of Type II diabetes inadequately controlled by diet and exercise:

- when metformin alone is inadequate;
- in patients who are currently receiving the combination as separate tablets;
- with other hypoglycaemic agents, including insulin, when these plus metformin are inadequate.

One tablet (Synjardy) should normally be provides an empagliflozin dose of 5mg current prescribed metformin dose. Tablets strengths of 5mg/850mg, 5mg/1g, Empagliflozin is a reversible, competitive Inhibition of SGLT2 improves glycaemic renal glucose reabsorption which leads to Urinary glucose excretion also triggers fat loss and body weight reduction.



taken twice daily, starting at a strength that twice daily together with the patient's are available in empagliflozin/metformin 12.5mg/850mg and 12.5mg/1g. inhibitor of the glucose transporter SGLT2. control in type II diabetes by reducing excess glucose excretion in the urine. calorie loss, which is associated with body [FDA]

Decoding Ebola: Next-Generation Sequencing of the Ebola Genome for the FDA ARGOS Database

To combat against the emerging threats, including Ebola and anti-microbial resistant-pathogens, in an outbreak, and to rule the mirror of any other possible disease, quick diagnosis is necessary for the confirmation and subsequent adoption of faster treatment strategies accordingly. Specific tests used regularly to identify pathogens clinically (e.g., PCR assays which identify certain genes such as those containing antimicrobial resistance markers) is mostly time consuming and often require specialized equipment. However, next-generation gene sequencing (NGS) technologies have recently shown a promising approach of replacing the conventional method of diagnostic testing by allowing rapid identification of an infectious disease without *a priori* suspicion of the etiological agent. There is a significant gap—and in some cases, a total absence—in the public domain of high-quality Ebola genomic sequence data and sequences from diseases that might be mixed up with Ebola. This project will develop the genomic sequencing data and

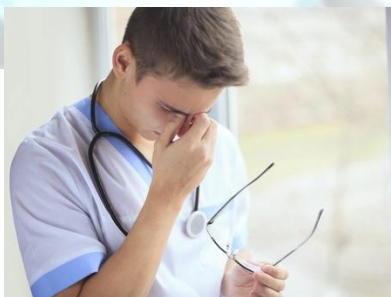
standards needed for diagnosing and ruling out Ebola infection. In this two-year project which begun in May 2015 FDA will expand the existing regulatory-grade reference database FDA ARGOS (FDA Database for Regulatory Grade microbial Sequences) and will add reference sequences for Ebola, closely related filoviruses such as Marburg and organisms that cause infections with symptoms similar to Ebola. Working with other government partners, FDA will acquire nucleic acids from these organisms, transfer them to sequencing facilities and place the resulting high-quality NGS data in publicly accessible NCBI databases, allowing diagnostic manufacturers and FDA to use computer simulations to supplement actual testing to assess how well new diagnostics perform.

http://www.fda.gov/EmergencyPreparedness/Counterterrorism/MedicalCountermeasures/MCMRegulatoryScience/ucm452650.htm?source=govdelivery&utm_medium=email&utm_source=govdelivery

- Noshin Muhtasim

Frequency and Outcomes of Patients with Misdiagnosed Acute Stroke

The diagnosis of stroke is not always straightforward and is often enshrouded with unusual clinical manifestations of stroke that results in misdiagnosis of acute stroke. According to the Acute Stroke Registry and Analysis of Lausanne, it was found that 47 out of 2200 patients were initially misdiagnosed of not having Acute Ischemic Stroke (AIS). Moreover, when compared with those diagnosed with stroke, it was depicted that AIS were inconspicuous in patients with younger age characterized by lower diastolic blood pressure, lack of eye deviation and cerebellar stroke. The presence of some neurological and non-



neurological conditions in patients also leads to challenges in diagnosis of stroke. The outcome of overlapping the symptoms of stroke with other pathophysiological conditions can result in neurologic worsening and since ischemic stroke is a condition resulting from interrupted blood flow to the brain due to blood clot in the artery, the stroke if remains unrecognized will miss the opportunity for thrombolysis to break the clot. Consequently, these disguised strokes may change and evolve with time, ultimately, leading to a higher disability and mortality rate. Therefore, as evident from registry analysis, younger patients are more likely to undergo misdiagnosis for AIS. Hence, there is an increasing need of young stroke awareness in emergency department to recognize and treat such patients appropriately.

<http://www.jwatch.org/na38878/2015/09/01/frequency-and-outcomes-patients-with-misdiagnosed-acute>

-Tanisha Khan

Evaluating the risks of Tramadol use on children under 17

Tramadol (sold under the brand names Ultram, Ultram ER, Conzip, Ultracet and also as a generic) is an opioid (synthetic narcotic not derived from opium) pain medication used to treat moderate to moderately severe pain. Although tramadol is not approved for use in kids, the FDA reports that some pediatric patients may receive this medication to treat pain after surgery to remove the tonsils or adenoids. Usually taken as an immediate-release oral formulation, the onset of pain relief usually occurs within an hour. It has two different mechanisms. First, it binds to the μ -opioid receptor. Second, it inhibits the reuptake of serotonin and norepinephrine. Both these mechanisms reduce pain by acting on the brain. Some children have a different side effect to this drug where it leads to breathing trouble, according to a FDA Drug Safety Communication release. The Food and Drug Administration says they are investigating this matter. Some patients may process it differently than others. In patients whose bodies process the drug too quickly, tramadol could be dangerous. These people are termed "ultra-metabolizers" of the drug according to FDA. That means their livers convert it into the active form more quickly and efficiently than most people resulting in a type of overdose. Tramadol is an opioid and the body converts it to a morphine-like drug, O-

Desmethyltramadol, when it is taken. All drugs in this morphine class can slow breathing often to a deadly degree. Treating pain in children is important because it can lead to faster recoveries and fewer complications," the FDA said. "Untreated pain can potentially result in long-term physical and psychological consequences. There are other pain medicines available that do not have this side effect of slowed or difficult breathing associated with tramadol and are FDA-approved for use in children."

The FDA recently approved a different pain drug, oxycontin, for use in children. This drug seemed quite controversial for use in children as it is extremely powerful and highly addictive making it very popular with addicts and pill pushers. This issue is being tackled by formulating the drug so that it is harder for patients to crush the pill for a "fast high". The FDA approval means there are guidelines on the use of oxycontin in children. Unlike adults, children must already have shown that they can handle the drug by tolerating a minimum dose equal to 20 milligrams of oxycontin for five consecutive days, reported by Dr. Sharon Hertz, Director of New Anesthesia, Analgesia and Addiction products for the FDA. The FDA continues to show optimism for oxycontin making it a fast favorite for pediatricians.

<http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm463499.htm>

– **Labiba Mahmud**

Technology: Fascination leading to addiction

The benefits of technology and its role in daily life of people are well known to all. It is always acknowledged that technology does wonders to the lives of human beings making it easier. However, the constant use of tablets and phones to play games or to socialize on networking sites which may not be anything unusual to anybody in the current era is actually leading to a very devastating medical condition known as addiction. Commonly, addiction is known to be habitual use of drugs and becoming dependent on it but very few understands that addiction is not limited to drugs only; the continuous urge to be on screen, disturbances or irritation if not being able to swipe screen every now and then, the pleasure and fascination regarding its use, all are symptoms of getting addicted to technology. Dr. Ramlakhan, Sleep Therapist working in Nightingale Hospital, United Kingdom talks about her patients addicted to technology and the problems they face in their

personal, social and professional lives. People always tend to remain tired as they cannot switch their brain off easily and thus deprived of sound sleep. Dr. Coax also agrees to Dr. Ramlakhan stating that prolonged engagement to screen for such long time is sure to affect the brain and build up stress as the brain is being instructed to do what it does not do and yet gets adapted to it as per its nature to adapt to changes. Dr. Ramlakhan prescribes not to use screen before going to sleep and to drink water and have breakfast before taking caffeine. Various initiatives have been taken to divert people from getting addicted to technology such as NICE guidelines suggest not more than two hours of screen time for adults and children. Schools not using computers find students achieving better grades and instead promote child play over video games.

<http://www.bbc.com/news/technology-33976695>

– **Nausheen Syeera**

Intelligent Machines: The jobs robots will steal first

The days at the office of the present generation could be numbered as an increasing range of jobs which can be done more efficiently by a machine. In cases of sitting at a desk, driving a taxi or carrying a load, it's a matter of wondering whether the robots will be able to do the jobs better and many may think the answer is yes. The debate about whether machines will eliminate the need for human employment is no longer just academic. Boston Consulting Group predicts that by 2025, up to a quarter of jobs will be replaced by either smart software or robots, while a study from Oxford University has suggested that 35% of existing UK jobs is at risk of automation in the next 20 years. Office workers who do repetitive jobs such as writing reports or drawing up spreadsheets are easily replaced with software but there are also other jobs which are under threat. A robot may not yet

have a good bedside manner but it is pretty good at wading through huge reams of data to find possible treatments for diseases. IBM's supercomputer Watson is teaming up with a dozen hospitals in the US, offering advice on the best treatments for a range of cancers. Royal Caribbean's luxury cruise ship Anthem of the Seas has recently installed a robotic bar - Shaker Maker which is a machine developed at MIT a few years ago. The robotic arm mixes the cocktail and pours it into a plastic (to avoid breakages) glass that sits in a trough (its pouring skills aren't always precise).

However there is a question that raises concern with the progress of the use of robots – 'Will it also steal our pharmaceutical technology jobs?'

<http://www.bbc.co.uk/news/technology-33327659>

– **Fabiha Tasnim**