May - Aug 2018 Volume 3 Issue 2

Sanjivini 2018
THE VIJAYA AUSHADHI

A Triannual Official Publication of
VIJAYA INSTITUTE OF PHARMACEUTICAL SCIENCES FOR WOMEN
Approved by AICTE, PCI, Affiliated to JNTUK & An ISO 9001:2015 Certified Institution

SRK FOUNDATION
VIJAYAWADA

A Newsletter on Pharmacy Practice

Hello readers,

Good professional practice comes from not only following the work ethic of the concerned profession, but also from being responsible to the needs of the society. The recent Kerala floods witnessed a huge devastation and the people from in and around embraced the Keralites with a warm heart supporting them with the basic amenities. Similarly, the past incidents of the Chardham destruction, Hudhud cyclone in Visakhapatnam, and the Chennai tragedy created a havoc in people's lives, when all the people came together for the rescue operations and played an important role in the rehabiliatation of the places. During such natural disasters, I urge the Pharmacy professionals to join their shoulders to respond with immediate effect to render their services to the needy, especially during the aftermath of the catastrophies when the diseases are rampant.

I appreciate the students of our institution who participated in the Swachh Bharat Internship Programme to spread awareness about the essential hygiene and sanitation practices. Their health camps in the select six villages made diagnosis, treatment and medicines available at the door step of the villagers.

These gestures will go a long way in inspiring others, and also hopefully make the pharmacy community more responsive. .

Please send your feedback to
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ELIMINATE HEPATITIS

World Hepatitis Day 28th June

Tests that can help diagnose hepatitis B :**Blood tests** to detect the signs of the hepatitis B virus (acute or chronic), HBsAg (hepatitis B surface antigen), anti-HBs (antibody to hepatitis B surface antigen), anti-HBc (antibody to hepatitis B core antigen). **Liver ultrasound** (transient elastography) **Liver biopsy** the amount of liver damage. **An acute hepatitis B infection** may last up to six months (with or without symptoms) Symptoms may include loss of appetite, joint and muscle pain, low-grade fever, and possible stomach pain. **Chronic Hepatitis B Infection :** People who test positive for the hepatitis B virus for more than six months (after their first blood test result) are diagnosed as having a chronic infection. Treatment for chronic hepatitis B may include: **Antiviral medications :** Several antiviral medications — including entecavir (Baraclude), tenofovir (Viread), lamivudine (Epivir), adefovir (Hepsera) and telbivudine (Tyzeka) — can help fight the virus and slow its ability to damage the liver. **Interferon injections.** Interferon alfa-2b (Intron A) is a man-made version of a substance produced by the body to fight infection. It's used mainly for young people with hepatitis B who wish to avoid long-term treatment or women who might want to get pregnant within a few years, after completing a finite course of therapy. Interferon should not be used during pregnancy.

References:

https://www.mayoclinic.org; http://www.hepb.org/; https://www.aasld.org.

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Aluminium: An Everyday Neurotoxin

Aluminium is neurotoxic because it possesses an extensive biochemical toolkit and because neurons are predisposed by their longevity toward its intracellular accumulation up to and beyond toxic thresholds. The establishment of its toxicity thresholds can result in neuronal dysfunction, neurodegeneration and ultimately neuronal cell death through a continuum of disruptive events from classical apoptosis through to sudden and violent necrosis. Its free ion, Al^{3+}(aq), is highly biologically reactive and uniquely equipped to do damage to essential cellular (neuronal) biochemistry. This unequivocal fact must be the starting point in examining the risk posed by aluminium as a neurotoxin in humans. Aluminium is present in the human brain and it accumulates with age. The most recent research demonstrates that a significant proportion of individuals older than 70 years of age have a potentially pathological accumulation of aluminium somewhere in their brain. Aluminium is a potent pro-oxidant, its interaction with the superoxide radical anion establishing, fuelling and sustaining redox cycles. The potency of these effects are all the more significant in that the enhanced formation of reactive oxygen species may be accelerated at sites which are distinct and divorced from locations housing the cell's anti-oxidant machinery. For example, aluminium sinks such as the extracellular senile plaques of Aß42 (amyloid ß 42 peptide) and the intracellular chromatin of neuronal nuclei are both likely targets of aluminium driven oxidative damage.

Aluminium is an excitotoxin and a few mechanisms have been described, whereby aluminium induces elevated and sustained levels of intracellular Ca^{2+} with significant implications not only for cellular energy metabolism, but also uncontrolled phosphorylation of biomolecules. The presence of biologically reactive aluminium imposes an immediate energy requirement upon a neuron, whether simply because of the need to produce more Ca^{2+}-buffering proteins or because of the requirement to clean up the consequences of hyperphosphorylation, for example, through autophagosomal activities. Aluminium is a mutagen and the phosphate-rich environment of the nucleus predisposes it to the accumulation of aluminium and subsequent alterations in the expression of genetic materials and in neuronal physiology over extended time periods.

Aluminium is, of course, a powerful immunogen, being the preferred adjuvant in vaccination and immunotherapy. This activity as an adjuvant, and concomitantly as an antigen, at injection sites in skin or muscle must also be considered for focal accumulations of aluminium within the CNS and such reactivity may underlie aluminium's suggested roles in autoimmunity. There are circumstances where aluminium is not only biologically reactive, but also neurotoxic and these are situations where the additional presence of aluminium in the brain tips the balance toward toxic effects. Neurodegenerative diseases affecting significant numbers of individuals, such as Alzheimer's disease (AD), Parkinson's disease and multiple sclerosis are likely to be multifactorial in their etiologies and aluminium is a potential contributor to the onset, progression and aggressiveness of these conditions.

A comprehensive study of the aluminium content of human brain tissue was undertaken on 60 human brains gave reasons for concern. This involved 12 tissue samples from each brain, three from each of the main lobes, temporal, occipital, frontal and parietal. While the median aluminium content for all tissues (n = 713) was 1.02 mg/g dry wt., a value which might not be considered as unusual, it was noted that 41 of the 60 brains studied included at least one tissue sample where the aluminium content exceeded 3.5 mg/g dry wt., a value which would actually be considered as pathological. This suggested that approximately 70% of the brain donors (aged 70–103) were potentially combating some form of aluminium-related neurodegenerative condition. Since aluminium was not included as a factor in the disease state or death of any of these donors, hence role of the aluminium in neuronal dysfunction need some more study. Further, the study was extended to understand the body burden of aluminium and successful in lowering the body burden of aluminium in individuals with moderate to-severe AD in individual demonstrated the significant improvements in cognitive performance in some individuals clinically.

References:

1. Christopher Exley. What is the risk of aluminium as a neurotoxin? Expert Review of neurotherapeutics 2014, 14(6) 589-591.
2. Davenward S et al., Silicon rich mineral water as a non-invasive test of the aluminium hypothesis in Alzheimer's disease. J. Alzheimers Disease 2013, 33(2) 423-30.

10 Health Benefits of Yoga

International yoga day 21st June

1. Improves body flexibility
2. Builds muscle strength
3. Perfects body posture
4. Protects body spine
5. Increases self-esteem
6. Drains lymphs and boosts immunity
7. Guides body's healing in mind's eye
8. Prevents IBS and other digestive problems
9. Keeps allergies and viruses at bay
10. Prevents cartilage and joint breakdown

Success is nothing more than a few simple disciplines, practice everyday --- **Jim Rohn**

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World No Tobacco Day
Tobacco and Heart Disease

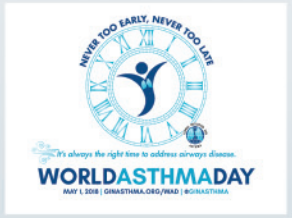
Smoke and secondhand smoke (smoke exhaled from the smokers) contains more than 4000 substances, more than 40 of which are known to cause cancer in human and animals. Tobacco smoke contains high levels of carbon monoxide and nicotine which harm the blood cells. Carbon monoxide affects the heart by reducing the amount of oxygen the blood is able to carry. This means that the heart, lungs, brain, and other vital organs do not always receive enough oxygen to perform everyday functions. At the same time, nicotine causes an increase in heart rate and blood pressure. Over time, this causes extraordinary "wear and tear" on the cardiovascular system. People who use tobacco are more likely to have heart attacks, high blood pressure, blood clots, strokes, hemorrhages, aneurysms, and other disorders of the cardiovascular system.They also can damage the function of heart, the structure and function of blood vessels. This damage increases the risk of atherosclerosis, coronary heart disease and peripheral artery disease.

Reference : https://www.thehearthospitalbaylor.com; https://www.webmd.com;

DRUGS AND COMBINATIONS APPROVED BY CDSCO FROM MAY 2018

Drug, Dose and Dosage form	Drug Information	Date of Approval
Baricitinib 2 mg / 4 mg film coated tablets	It's used as anti-rheumatic drug. It inhibits enzyme Janus kinase which activates cytokine receptors which controls cell growth and immune system.	07.05.2018
Vortioxetine Hydrochloride 5 mg / 10 mg / 15 mg / 20 mg film coated tablets	For the treatment of major depressive disorder in adult, by increasing serotonin concentration in brain by inhibiting its reuptake in synapse by modulating certain serotonin receptors.	14.05.2018
Vardenafil Hydrochloride Trihydrate **Vardenafil** 2.5 mg / 5 mg / 10 mg / 20 mg	Tablets Treatment of erectile dysfunction in adult men. It inhibits phosphodiesterase type 5 inhibitor causes erection.	11.06.2018
Trientine Hydrochloride bulk & 250 mg caspule	For the treatment of Wilson's disease (hepatolenticular degeneration) in patients intolerant to Penicillamine. It acts as a chelating agent for heavy metal poisoning.	11.06.2018
Apremilastbulk & **Apremilast** 10 mg, 20 mg, 30 mg - film coated tablets	Indicated for the treatment of patients with moderate to severe plaque psoriasis who are candidates for phototherapy or systemic therapy	25.06.2018
Gadoteridol- 279.3 mg/ml for injection Pack size – 10 ml, 15 ml and 20 ml.	It is used as Gadolinium based MRI contrast agent. Lesions with abnormal vascularity in the brain (intracranial lesions), spine and associated tissues in adults and paediatric patients over 2 years of age. Also Lesions in the head and neck in adults.	25.06.2018
Emtricitabine 200 mg and **tenofovir, alafenamide** 25 mg tablets	In combination with other antiretroviral agents for the treatment of adults and adolescents (aged 12 years and older with body weight at least 35kg) infected with human immunodeficiency virus type I (HIV-I).	25.06.2018
Ceftolozane 1 gm (equivalent to 1.147 gm of Ceftolozane sulfate) and **Tazobactam** 0.5 gm (equivalent to 0.537 gm of Tazobactum /Sodium)	Complicated intra-abdominal infections (cIAI) caused by the following Gram-negative and Gram-positive microorganisms: Enterobacter cloacae, Escherichia coli, Klebsiella oxytoca, Klebsiella pneumoniae, in combination with metronidazole in ICU setting only. Complicated urinary tract infections (cUTI), including pyelonephritis, caused by the following Gram-negative microorganisms: Escherichia coli, Klebsiella pneumoniae, Proteus mirabilis, and Pseudomonas aeruginosa in ICU setting only.	06.08.2018

Reference : http://cdsco.nic.in/forms/list.aspx?lid=2034&Id=11



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Campus News

- Students of B. Pharm and Pharm D had attended a Seminar on *Mind Education Assessment* organized by CRESI, Centre for Research and Education Hyderabad in association with IMEI, International Mind Education Institution team from Korea. In Vijaya IOPs for women on 2nd May 2018.
- Mrs. Park Young Song was the chief resource person who addressed the audience on the topic *Stress Management.* Mr. Satish Nagalla gave a talk on *Generic Medicine* on 13th June 2018.
- From 23rd June to 31st July, 2018 students of Pharm D as part of *Swachh Bharat Internship Programme* participated in various awareness programmes and health camps in six villages namely, Unguturu, Garapadu, Ponukumadu, Nagavarappadu, Tuttagunta and Vennuthala in Unguturu mandal, Krishna District, Andhra Pradesh.
- *Swachhta Pakhwada* was observed in the college campus from 1stAugust to 15th August, 2018.
- Our Institution Vijaya Institute of Pharmaceutical Sciences for women has received Bharat Gaurav, Pride of India 2018 award. As the best women Institution in India by Score More foundation.
- Dr. Kola Vijaya Sekhar, Professor of Ophthalmology from Guntur Government Medical College gave a guest lecture on *Eye Donation* on 3st Aug 2018.

To,

We are pleased to receive your feedback and suggestions to :

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