



# RADIANZA

A quarterly Pharmacy Practice update for all health care professionals

Department of Pharmacy Practice , KVM College of Pharmacy, Cherthala.

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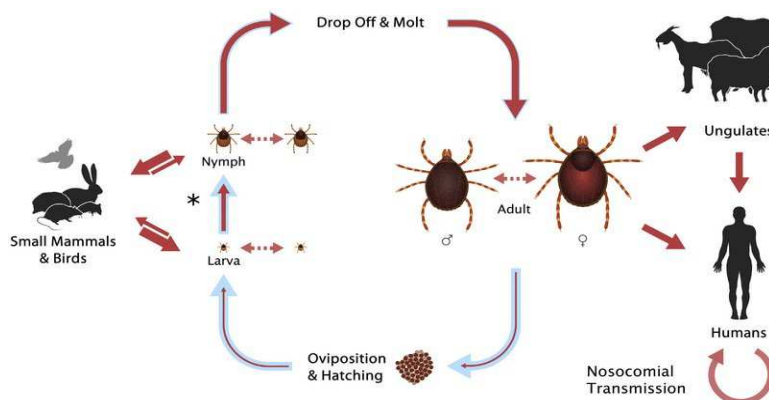
**Drugs Banned**

US, UK among the 22 countries banned the drug Valsartan ( an anti-hypertensive drug) due to the presence of N-nitrosodimethylamine (NDMA) and lack of specific standards.

**New Drug**

The FDA has approved the drug Lofexidine for the treatment of malaria . It is a oral tablet designed to manage the symptoms of drug withdrawal during opioid discontinuation .

## CONGO FEVER MANAGEMENT



Bleeding from various sites (hematemesis, melena, etc.).

**TREATMENT**

General supportive care with treatment of symptoms is the main approach to managing CCHF in people. The antiviral drug

ribavirin has been used to treat CCHF infection with apparent benefit. Both oral and intravenous formulations seem to be effective.

**PREVENTION & CONTROL**

There are no vaccines available for use in animals. In the absence of a vaccine, the only way to reduce infection in people is by raising awareness of the risk factors and educating people about the measures they can take to reduce exposure to the virus. Use gloves and mask and practice hand-hygiene when caring for suspected CCHF patient at home.

Crimean-Congo haemorrhagic fever (CCHF), commonly known as the Congo fever is a viral haemorrhagic fever transmitted by ticks. Recently a CCHF case was reported in Thrissur district, Kerala.

**CAUSES**

Crimean-Congo haemorrhagic fever (CCHF) spreads to humans either by tick-bites, or through contact with viraemic animal tissues during and immediately post-slaughter.

Secondary human-to-human transmission occurs through direct contact with the blood, secretions, organs or other body fluids of infected persons.

**SIGNS & SYMPTOMS**

Onset of symptoms is sudden, with fever, myalgia, backache, headache, sore eyes and photophobia (sensitivity to light). There may be nausea, vomiting, diarrhoea, abdominal pain and sore throat early on, followed by sharp mood swings. After 2-4 days, the agitation may be replaced by sleepiness, depression, and the abdominal pain may localize to the upper right quadrant, with detectable hepatomegaly,

Contributed by,  
**Dr. Bincy Mary Roy**  
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## Omadacycline– a Promising Antibiotic

Drug named Nuzyra (Omadacycline) is a modernized tetracycline, developed by Paratek-Pharmaceuticals, specifically designed to overcome tetracycline resistance, was approved on October 2018 for the treatment of community acquired bacterial pneumonia and acute bacterial skin and skin structure infection .

### General information

FDA approval was based on studies by comparing Omadacycline to Moxifloxacin for bacterial pneumonia. Omadacycline met the FDA specified primary endpoint of statistical non inferiority in the intent to

treat population compared to Moxifloxacin.

In the ABSSSI (Acute Bacterial Skin and Skin Structure Infection) study, conducted by comparing with Linezolid, the clinical response was reached by 87.3% of Omadacycline arm and 82.2% of Linezolid arm.

### Mechanism of action

Omadacycline binds to the primary tetracycline binding site on the bacterial 30s ribosomal subunit. It blocks protein synthesis, disrupting cellular function, resulting in either cell death or stasis.

### Dose

For pneumonia : 100mg IV every 12hrs on day 1, followed by 100mg IV or 300mg oral daily.

For ABSSSI : 450mg oral once a day on day 1 and 2 , followed by 300mg orally once a day.

### Side effects

Infusion site reaction, insomnia, constipation, hypertension.

Contributed by

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## Artificial pancreas likely to be available soon - study

The artificial pancreas, a device which monitors blood glucose in patients with Type 1 diabetes and then automatically adjusts levels of insulin entering the body, is likely to be available soon, according to a paper published in *Diabetologia* (the journal of the European Association for the Study of Diabetes). The device, which is worn like an insulin pump, has been termed the 'artificial pancreas' because it monitors and adjusts insulin levels just as the pancreas does in people without diabetes. Currently available technology allows insulin pumps to deliver insulin to people with diabetes after taking a reading or readings from glucose meters, but these two components are separate. It is the joining together of both parts into a 'closed loop' that makes an artificial pancreas, explain authors Dr Roman Hovorka and Dr Hood Thabit of the University of Cambridge, UK.

## Answer For Case Challenge Volume1, Issue 1

The lower limit of the reference range for hemoglobin concentration in men is about 2 g/dL higher than in women, almost exclusively as a result of the influence of testosterone. Biochemically castrated men thus would be expected to have concentrations of serum hemoglobin within the normal female range. This has been documented in studies of men with localized prostate cancer who begin androgen deprivation therapy. The mean decrease in hemoglobin over 6 months was 1.5 g/dL in one study<sup>2</sup> and as high as 2.6 g/dL in another.<sup>3</sup> The mean corpuscular volume remains normocytic. In those who discontinue androgen deprivation therapy, the recovery is slow and parallels the recovery of testosterone. Only about 14% of patients develop a hemoglobin concentration of 10 g/dL or lower, with symptoms referable to anemia.

In this patient, iron deficiency is not suggested by the data, and the reasons for the decrease in hemoglobin concentration are well understood, making a ferritin assay or a second colonoscopy unnecessary. Although omeprazole may interfere with iron absorption in those who are receiving iron replacement therapy, it should not produce a de novo normocytic anemia. The patient's prostate cancer is biochemically in remission, and he has no bone symptoms.

Androgen deprivation therapy produces a predictable decrease in hemoglobin; in the absence of bleeding or other causes of anemia, this decrease does not require additional diagnostic testing and may simply be periodically monitored for stability.

## What's new in the field of medicine

### Switching to Human Insulin Not Harmful in Type 2 Diabetes

Findings from the large retrospective cohort study suggests that switching patients with type 2 diabetes from insulin analogs to human insulin could save a lot of money, without causing harm. This finding have lot of importance in Indian population in terms of Pharmaco-economics.

*JAMA*. 2019;321:350-351, 374-384.

### Rocking motion improves sleep and memory, studies in mice and people show

Two new studies, one conducted in young adults and the other in mice, add to evidence for the broad benefits of a rocking motion during sleep. In fact, the studies in people show that rocking not only leads to better sleep, but it also boosts memory consolidation during sleep.

### Superbug genes from India found in Arctic

A new study finds Genes detected in antibiotic-resistant superbugs in the High Arctic originated in India. Scientists estimate that around 70% of bacteria that cause infections are already resistant to at least one antibiotic used to treat them, largely fueled by their overuse.

## Case Challenge—II

A 51-year-old man presented with high-grade fever, muscular rigidity, tachycardia, tachypnoea and altered sensorium along with seizures. There was no history of seizures or head injury. He had been taking olanzapine for the past 3 years for psychosis. Valproate was added to his treatment 20 days back. On Physical examination he had severe dehydration, hypotension and pallor. His blood investigations revealed hyponatraemia, hypokalemia and raised serum ammonia and creatinine phosphokinase (CPK) levels. Other vital signs were unremarkable. Possible causes for the similar symptoms were ruled out by physical and laboratory investigations. In view of hyperthermia, muscular rigidity, autonomic disturbances, altered mental status and raised CPK, a diagnosis of NMS was made. Valproate could have probably precipitated NMS; although the patient was taking antipsychotics for a long time, it was only with the addition of valproate that he developed these symptoms. Raised serum ammonia levels also indicated the presence of valproate toxicity. Seizures were probably due to electrolyte disturbances. Valproate was withheld. The patient was started on levetiracetam for controlling seizures. The patient was given pramipexole and lorazepam as definitive therapy for NMS. The patient improved with treatment by dopamine agonist and other supportive treatments. His CPK levels drastically reduced to normal levels on discharge at 20 days. He was advised a close follow-up with the psychiatrist. Levetiracetam was continued for 3 months and then tapered off. Though NMS associated with typical antipsychotic, Valproate can precipitate NMS, especially when given concurrently with atypical antipsychotics.

### Questions

- 1) What is Neuroleptic Malignant syndrome and likely drugs which may cause it.
- 2) What is the standard treatment protocol for NMS.



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*Clinical Pearls-*

- A 2012 Cochrane review of 24 studies concluded that cranberry products did not statistically prevent urinary tract infections and should not be used for this purpose
  - Empagliflozin should not be used in type 1 diabetes due to an increased risk of diabetic ketoacidosis.
- University of Michigan Department of Pediatrics website, indicates that ibuprofen is more effective at achieving temperature normalization than acetaminophen

Department Activities

CLINICOAVANCE 2K18

Department of Pharmacy Practice conducted a 2 day National workshop on Clinical Skills Development. The program on 28th and 29th of September was attended by students and faculties of more than 8 different colleges across India. Dr. Karthik Rakam, Associate director , Tychee innovations , Hyderabad was the lead resource person. Dr Vinod Pavithran, Senior Consultant in General Medicine, KVM Hospital Cherthala and Dr . T K Jayarajan, Consultant neurosurgeon, EMC Hospital, Ernakulam also enriched the young Pharmacist with clinical updates. The Workshop was appreciated by all participants for its content, professionalism and time management. Department of Pharmacy Practice express our sincere gratitude to all those who helped us in successful conduction of this workshop.

