A NEWSLETTER BY DEPARTMENT OF PHARMACY—SIH

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Drug and Poison Information Centre,
Department of Pharmacy Services,
Shifa International Hospital
H-8 /4 , Islamabad Pakistan
Tel: +92-51-846-3492, 3005, 3977
Email: drug.information@shifa.com.pk

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Inside this issue

Colchicine Shows Promise to Reduce Events After MI

Sana Akhter Inpatient Pharmacist

Addition of the anti-inflammatory agent colchicine to standard of care within 30 days of a myocardial infarction (MI) significantly reduced a composite endpoint of cardiovascular events compared with placebo in a large, randomized study. In the evaluation of 4745 people who experienced a recent MI, low-dose colchicine, 0.5 mg daily, significantly decreased the risk for first ischemic cardiovascular events by 23% compared with placebo. Researchers also report that colchicine reduced combined first and recurrent ischemic cardiovascular events by 34%. Colchicine has been available for decades and is generally used short term to treat gout and pericarditis. Anti-Inflammatory Effect Could be Key because there is ample evidence that supports the role of inflammation in atherosclerosis initiation, progression and complication that leads to acute coronary syndromes. The Colchicine Cardiovascular Outcomes Trial (COLCOT) study was reported at the American Heart Association (AHA) Scientific Sessions 2019 and simultaneously published online in *the New England Journal of Medicine.*

Reference : https://www.medscape.com/viewarticle/921460#vp_1

New Guidelines on Preventing Secondary Stroke

Burhan Saeed Clinical Pharmacist Paeds ICU

The European Stroke Organization offered guidelines on antithrombotic therapy for secondary stroke prevention in patients with atrial fibrillation in the *European Stroke Journal* .

The most important recommendation is that antiplatelet therapy should no longer be used. The second recommendation is that Vitamin K antagonists should be used compared with no treatment or with Aspirin, and Non–Vitamin K antagonist oral anticoagulants are preferred over Vitamin K antagonists. Aspirin alone offers inadequate protection, with a stroke risk that averaged 10% per year in a pooled analysis of individual participants in six randomized trials. Compared with Aspirin, treatment with adjusted-dose Warfarin (INR 2 to 3) reduced this risk to 4% per year. Anticoagulation with NOACs (Dabigatran, Rivaroxaban , Apixaban, and Edoxaban) led to similar or lower rates both of ischemic stroke and major bleeding compared to adjusted dose warfarin (INR of 2.0 to 3.0) in patients with non-valvular AF in large randomized trials.

Important advantages of the NOAC agents: convenience (no routine testing of INR), a high relative but small absolute reduction in the risk of ICH, lack of susceptibility to dietary interactions, and markedly reduced susceptibility to drug interactions, no bridging with low-molecular-weight heparin is needed until anticoagulation is started.

Reference: Hans-Christoph Diener. Meat, Fish, and Vegetables: New Data on Heart Disease and Stroke - Medscape - Nov 01, 2019.

Do you Know?

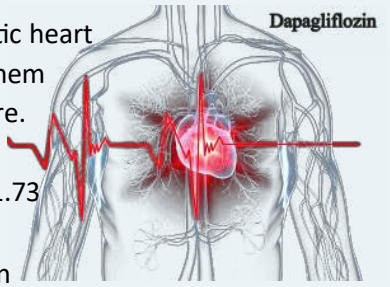
Acyclovir induced AKI can be prevented by:

- Maintaining adequate hydration (Urine Output >75ml/hr)
- Giving medicine as slow IV over 1-2 hrs
- If clinically allowed, give IV NS @125 mL/hour, 1 hr prior to the administration of acyclovir and continuing for 6 hours after the acyclovir infusion is finished.

Dapagliflozin for heart failure with reduced ejection fraction (DAPA-HF trial)

Sundus Maria ICU Clinical Pharmacist

Heart failure is one of the major complications of diabetes and has a poor prognosis. The American Diabetes Association (*ADA*) and the European Association for the Study of Diabetes (*EASD*) guidelines have already recommended the use of Sodium-glucose co-transporter 2 (SGLT2) inhibitors such as Dapagliflozin, Empagliflozin e.t.c in diabetic patients with prevalent heart failure (at least with HfrEF).



A trial named DAPA-HF was conducted in 2019 that enrolled almost 5000 patients with symptomatic heart failure and reduced ejection fraction (HFrEF) — with or without type 2 diabetes and randomized them to once-daily Dapagliflozin 10 mg or placebo on top of contemporary therapy for heart failure. Inclusion criteria were Symptomatic heart failure, Left ventricular ejection fraction (LVEF) ≤40% and an elevated natriuretic peptide level ≥600 pg/ml. Exclusion criteria were eGFR <30 ml/min/1.73 m2, S.B.P <95 mm Hg and Type 1 diabetes mellitus.

Sodium-glucose co-transporter 2 (SGLT2) inhibitors reduced hospitalization for heart failure (HF) in patients with type 2 diabetes mellitus (DM), but whether they improve outcomes for non-diabetic patients with HF has not been known. Compared with placebo, all-cause mortality and the primary composite outcome (worsening HF or cardiovascular death) was reduced with Dapagliflozin, with similar effects in patients with and without type 2 DM. The frequency of adverse effects was generally similar in the Dapagliflozin and placebo groups.

Among patients with symptomatic HFrEF, Dapagliflozin was beneficial. Dapagliflozin vs. placebo was associated with a reduction in cardiovascular deaths and heart failure events. Dapagliflozin was also associated with improvement in symptoms. Benefit was consistent across the age spectrum, in diabetics/nondiabetics, and across the range of baseline health status. There was no sign of adverse safety events. The baseline use of sacubitril-valsartan was low. Dapagliflozin may signal a new approach in the treatment of patients with HFrEF.

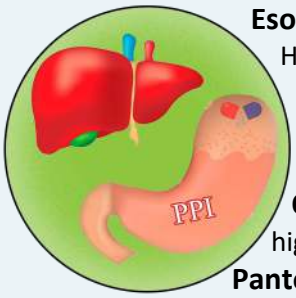
References : DAPA-HF Published: 'Stunning Consistent Benefit With Dapagliflozin' - Medscape - Sep 19, 2019.

Glimpse of World Pharmacist Day Celebration at Shifa International Hospital Islamabad. Team Pharmacy with Senior Leadership, officials from DRAP, Shifa Doctors and Nurses, colleagues from Shifa Tameer-e-Millat University and fellow pharmacists from various other hospitals of the region.

Dose Adjustment of PPIs with Cirrhosis

Rani Gul , Ambulatory Care Pharmacist

Liver disease may alter the response to drugs. Hepatic Impairment warrants drug dose adjustment and Proton pump inhibitors are one of the class that have hepatic metabolism so their dose need to be adjusted. Following are dose adjustment for PPIs in patients with hepatic impairment.



Esomeprazole No dosage adjustment in mild to moderate hepatic insufficiency (Child–Pugh Classes A and B). However, in severe hepatic insufficiency (Child–Pugh Class C), max dose is 20 mg once daily

Lansoprazole: The exposure to lansoprazole is doubled in patients with mild hepatic impairment and much more Increased in patients with moderate to severe hepatic impairment. 50% reduction of the daily dose is recommended in moderate-severe impairment

Omeprazole: In patients with hepatic impairment, the metabolism of omeprazole is decreased causing a higher AUC. A daily dose of 10–20 mg may be sufficient.

Pantoprazole: In patients with severe hepatic impairment, max dose is 20 mg/day. Liver enzymes in patients with severe hepatic impairment should be monitored regularly. If there is an increase in liver enzyme values, the treatment should be stopped.

Rabeprazole: For patients with hepatic impairment, no dose adjustments is required.

Reference: Weersink, R.A., et al., Safe use of proton pump inhibitors in patients with cirrhosis. British journal of clinical pharmacology, 2018. 84 (8): p. 1806-1820.

2019 Guidelines for Diabetes Care in the Hospital

Rehan Anjum ICU/Transplant Clinical Pharmacist

The American Diabetes Association (ADA) "Standards of Medical Care in Diabetes" includes ADA's current clinical practice recommendations regarding diabetes care, general treatment goals and guidelines, and tools to evaluate quality of care.

Key Recommendations

- Initiate insulin therapy for blood glucose (BG) levels ≥180 mg/dL in most hospitalized patients, with target BG range of 140–180 mg/dL. (Evidence grade: A)

Recommended insulin regimens for hospitalized patients with diabetes or hyperglycemia, In patients with:

- **Adequate nutritional intake:** basal + prandial + correction insulin. (Evidence grade: A)
- **Poor nutritional intake or NPO patients:** basal + correction insulin. (Evidence grade: A)
  Sliding-scale insulin alone is strongly discouraged. (Evidence grade: A)

Moreover:

- When hypoglycemia (BG <70 mg/dL) occurs, insulin therapies should be reviewed and adjusted (Evidence grade: C)
- Determine HbA1c levels for all patients with diabetes or hyperglycemia (BG, >140 mg/dL) if not recorded during the prior 3 months. (Evidence grade: B)
- Implement a systematic, individualized management plan — including structured communication to the patient and primary care clinician along with medication reconciliation — at hospital discharge. (Evidence grade: B)
  Oral hypoglycemic agents usually are stopped during hospitalization. However, limited evidence suggests that a combination of dipeptidyl peptidase-4 inhibitors plus basal insulin might provide similar glucose control in non–intensive care inpatient settings *(Lancet Diabetes Endocrinol 2017; 5:125). Reference: Daniel D. Dressler, MD, MSc, SFHM, FACP reviewing American Diabetes Association.*

Komal Fizza, Assoc. Manager DPIC representing Shifa at *Medication Safety Conference 2019* Abu Dhabi

Salwa Ahsan, Chief of Pharmacy Shifa was awarded as "Pharmacist Patient Safety Champion 2019" in closing ceremony of IPSC 2019 (Riphah) graced by Dr Zafar Mirza Special Advisor to PM on Health,

Azizullah Khan Principal Pharmacist Ambulatory Care representing Shifa at *IVPN Conference* 2019 Abu Dhabi

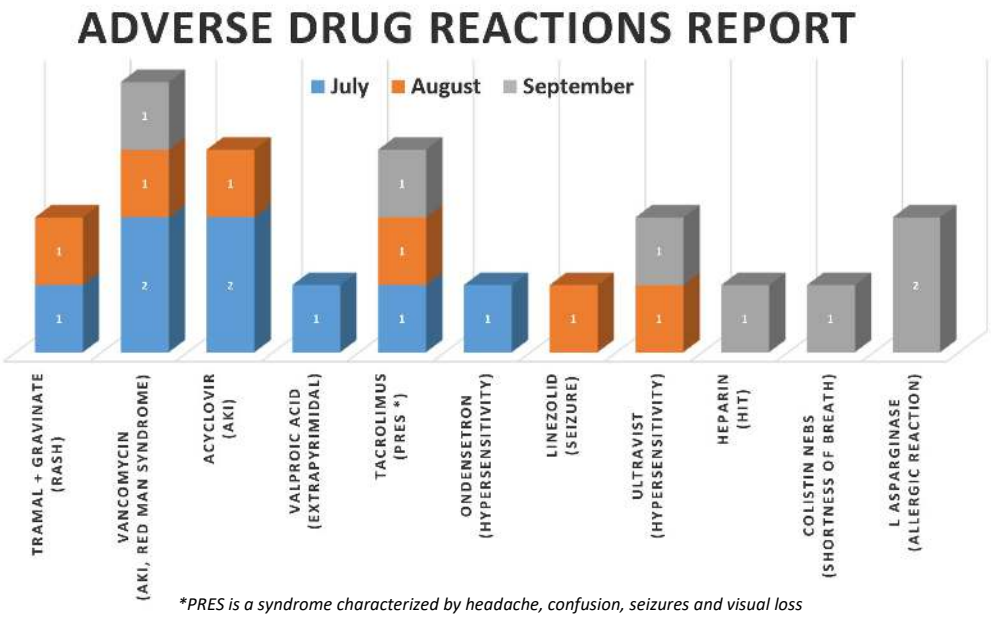
Formulary updates			(Visit Shifa Intranet Home Page—click ☞ Medication Updates for details)
Brand	**Generic**	**Class**	**Indications**
Boosterix	TDaP	Vaccine	Booster immunization against tetanus, diphtheria, and pertussis.
Anifed 20 mg **Nifine CC 30 mg**	Nifedipine	Calcium Channel Blocker	Hypertension , Angina and tocolytic (alternate brand of Adalat)
Influvac	Influenza vaccine	Inactivated Vaccine	Prevention of influenza infection season 2019
Niminrex	Meningococcal polysaccharide serogroups A, C, W-135 and Y conjugate vaccine	Meningococcal Vaccine	Meningococcal vaccine that can be given to patients age more than 6 weeks
My-D 50000 unit	Cholecarciferol	Supplement	Vit D deficiency, Rickets
Ivatab 7.5 mg	Ivabradine	Anti-anginal	Chronic stable angina pectoris

Age and hyperkalemia risk during Spironolactone therapy for Acne

Muhammad Awais Anticoagulation/ICU Clinical Pharmacist

Spironolactone is a drug that, at a lower dose, can help with hormonal acne. It's also an androgen blocker and a diuretic. Androgens (like testosterone) are responsible for a few masculine-leaning traits—things like body-hair growth and sebum production. Spironolactone blocks some of the body's production of androgens, which is why it's not generally prescribed to men. Controversy exists regarding whether it is necessary to monitor serum potassium levels in women receiving spironolactone for acne, especially in younger women. In a retrospective study of women on spironolactone for acne, rates of hyperkalemia were <1% among the 112 women aged 18 to 45 years, and 17% among the 12 women aged 46 to 65 years. Given these and other data, suggested is the periodic monitoring of serum potassium in women taking spironolactone for acne who are either older than 45 years or have risk factors for hyperkalemia, and not routinely monitor serum potassium in others.

Reference: Rebecca Thiede-Supriya - International Journal of Women's Dermatology - 2019



**PRES is a syndrome characterized by headache, confusion, seizures and visual loss*

Shifa International Hospital signed a MOU with DRAP and Shifa was declared as first Sub-Regional center for Pharmacovigilance activities in Islamabad .

Remember, Reporting ADRs , Report ADR via **ADR hotline Ext # 3977** or send the filled ADR form to pharmacy.

Looking for Your Valuable Feedback

We want to bring to you valuable, updated and interesting information via Pharmacy Newsletter, so please spare some time to provide your valuable feedback in the form of comments or suggestions. Its your newsletter and with your help we'll make it better!
Kindly send us your ***comments/suggestions*** *via email at :* ***drug.information@shifa.com.pk***
Thank you , we are looking forward for your valuable feedback.