Shaukat Khanum Memorial Cancer Hospital and Research Center

Pharmacy Newsletter

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Formulary Update

Following drugs have been approved by P&TC in 2015

a. Busulphan Tablet
b. Dantrolene Sodium Injection (Use should be restricted to Anaesthesia Department)
c. Absorbable Fibrin Sealant Patch (Restricted formulary - Specifically for use by the Hepatobiliary Surgeon)
d. Sodium Tetradecyl Sulphate Injection
e. Budesonide + Formoterol Capsule for inhalation
f. Rasburicase Injection (For pediatric patients only)

Post HSCT Immunization Schedule

By Sidrah Andleeb

	At 6 months	At 7 months	At 8 months	At 10 months	At 12 months	At 24 months
IIV	√[1]					
IPV	√		√	√		
Recombinant HBV[2]	√		√	√		
PCV 13	√ [3]		√	√		
PPSV 23					√ [4]	
Hib	√	√	√			
MenACWY[5]	√		√			
DTaP[6]	√	√			√	
MMR						√ [7]
VZV						√ [8]

Ref: CDC 2015, IDSA clinical practice guidelines, 2014

[1]At 4 months if community outbreak. For children aged 6 months–8 years, who are receiving influenza vaccine for the first time, 2 doses should be administered.
[2] If a post-vaccination anti-HBs concentration of ≥10 mIU/mL is not attained, a second 3-dose series of Hep-B vaccine using standard dose or high dose (40 µg) for children and high dose for adolescents and adults should be administered.
[3] 3-6 months
[4] For patients with chronic GVHD, a fourth dose of PCV13 can be given at 12 months after HSCT.
[5] 2 dose series at 11-18yrs, Booster dose given at age 16–18 years for those who received the initial post-HSCT dose of vaccine at age 11–15 years.
[6]Alternatively, a dose of Tdap vaccine should be administered followed by either 2 doses of DT vaccine or 2 doses of Td vaccine.
[7] 2 Doses 8 weeks apart to measles-seronegative adolescents as well as to adults and children having neither chronic GVHD nor ongoing immunosuppression. Also 8–11 months after the last dose of IVIG or earlier if there is a measles outbreak.
[8]2-dose 8 weeks apart to varicella-seronegative patients having neither GVHD nor ongoing immune-suppression as well as 8–11 months after the last dose of IVIG.

DTaP: Diphtheria Tetanus acellular Pertussis; GVHD: Graft versus host disease; HBV: Hepatitis B Virus; HSCT: Hematopoietic stem cell transplant; Hib: Haemophillus influenza B; IIV: Inactivated influenza vaccine; IPV: Inactivated Polio Vaccine; IGIV: Immunoglobulin intravenous; MenACWY: Meningococcal vaccine Quadrivalent; MMR: Measles Mumps Rubella; PCV13: Pneumococcal vaccine 13 valent; PPSV23: Pneumococcal polysaccharide vaccine 23 valent; VZV: Varicella zoster

Antibiotics dosing in dialysis

By Mariam Nawaz

Drug	Normal renal dose	IHD		CRRT			Peritoneal dialysis
		Dose	Supplemental dose	CVVH	CVVHD	CVVHDF	
Acyclovir	--	2.5-5 mg/kg Q 24 H	-	5-10 mg/kg Q 24 H	5-10 mg/kg Q 12-24 H	Administer 50% of normal dose once daily; no supplemental dose needed	--
Amikacin	15-20 mg/kg/day. Max: 1.5g/day	5-7.5 mg/kg Q 48-72H	Re dose if: post-HD conc. <6-8 mg/L & pre-HD concentration <10 mg/L	Loading dose 10 mg/kg followed by maintenance dose of 7.5mg/kg Q24-48 H. For severe GNB, re-dose when peak concentration <10 mg/L			Loading dose, then monitor levels
Amphotericin	0.3 to 1.5 mg/kg/day	Poorly dialyzed; no supplemental dose or dosage adjustment necessary, including patients on intermittent hemodialysis or CRRT.					1-2mg/L of peritoneal dialysis fluid (2-10 mg/kg given over 7-14 days)
Cephazolin	1-1.5 g Q8H max: 12 g daily	500mg to 1 g Q24H or 1-2 g Q48-72H OR 15-20 mg/kg (max: 2 g) after dialysis 3 times weekly	2 g after dialysis if next dialysis expected in 48 H or 3 g after dialysis if next dialysis is expected in 72 hours	Loading dose of 2 g followed by 1-2 g Q12H	Loading dose of 2 g followed by either 1 g Q8H or 2 g Q12H		500 mg Q12H
Ciprofloxacin	Oral: 500mg BID IV: 400 mg BID	Oral: 250 to 500 mg Q 24 H IV: 200 to 400 mg Q 24 H	--	IV: 200 to 400 mg Q 12 to 24 H			--

Drug	Normal renal dose	IHD		CRRT			Peritoneal dialysis
		Dose	Supplemental dose	CVVH	CVVHD	CVVHDF	
Co-trimoxazole	PO: 1-2 DS tablets Q12-24 H	2.5-10 mg/kg TMP Q 24 H or 5-20 mg/kg TMP 3 times weekly after IHD	2.5-7.5 mg/kg of TMP Q 12 H.				Intra-peritoneal: Loading dose: TMP-SMX 320/1600 mg/L; Maintenance: TMP-SMX 80/400 mg/L
	IV: 8-20 mg TMP/kg/day divided Q 6-12 H	PCP prophylaxis: One single-strength tablet after each dialysis session	Critically-ill patients with PCP receiving CVVHDF may require up to 10 mg/kg Q 12 H				Peritonitis: Oral: One double-strength tablet twice daily
Ganciclovir	Induction therapy: 5 mg/kg/dose Q 12 H, Maintenance therapy: 5 mg/kg/day as a single daily dose (duration specified as per condition)	Induction: 1.25 mg/kg Q 48-72 H; Maintenance: 0.625 mg/kg Q 48-72 H.	--	Induction: 2.5 mg/kg Q 24 H; Maintenance: 1.25 mg/kg Q 24 H	IV: Induction: 2.5 mg/kg Q 12 H; Maintenance: 2.5 mg/kg Q 24 H		Administer 0.625 mg/kg/dose 3 times/week
Imipenem	500-1000 mg Q6h	--	--	500 – 1000mg BID			125-250mg q12h
Levofloxacin	500-750mg OD (based on the condition)	Administer 750 mg initial dose, followed by 500 mg Q 48 H	--	Loading dose of 500-750 mg followed by 250 mg Q 24 H.	Loading dose of 500-750 mg followed by 250-500 mg Q 24 H	Loading dose of 500-750 mg followed by 250-750 mg Q 24 H	Same as HD
Meropenem	1.5 to 6 g daily divided Q8H	500 mg Q 24H	--	Loading dose 1 g followed by either 500 mg Q 8H or 1,000 mg Q 12H	Loading dose 1 g followed by either 500 mg Q 6 to 8 H or 1 g Q8 to 12 H		Administer recommended dose (based on indication) Q24H
Piperacillin/ tazobactam	4.5 g Q6-8H; max:18 g daily	2.25 g Q12H (2.25 g TID for nosocomial pneumonia	2.25 g Q12H (2.25 g TID for nosocomial pneumonia	2.25-3.375 g Q6-H	2.25-3.375 g Q6H		3.375 g Q6H
Vancomycin	1,000 mg Q12H	Following loading dose of 15 to 25 mg/kg, give either 500 to 1,000 mg or 5 to 10 mg/kg after each dialysis session	If pre-HD trough level: <10 mg/L: Administer 1,000 mg after HD 10 to 25 mg/L: Administer 500 to 750 mg after HD >25 mg/L: Hold Vancomycin	Determine plasma drug level			Administration via PD fluid: 15 to 30 mg/L (15 to 30 mcg/mL) of PD fluid Systemic Loading dose 1,000 mg, followed by 500 to 1,000 mg Q48 to 72H with close monitoring of levels
				Loading dose of 15 to 25 mg/kg, followed by either 1,000 mg Q48H or 10-15mg/kg Q24 to 48 H	Loading dose of 15 to 25 mg/kg, followed by either 1,000 mg Q24H or 10-15mg/kg Q24 H	Loading dose of 15 to 25 mg/kg, followed by either 1,000 mg Q24H or 7.5 to 10mg/kg Q12H	

CRRT: Continuous renal replacement therapy; CVVH: Continuous veno-venous hemofiltration; CVVHD: Continuous veno-venous hemodialysis; CVVHDF: Continuous veno-venous hemodiafiltration; IHD: Intermittent hemodialysis; HD: Hemodialysis PCP: Pneumocystis carini pneumonia; TMP: Trimethoprim

News & Updates

Palbociclib – For Advanced Breast Cancer

Palbociclib (Ibrance) has been approved for the treatment of estrogen receptor ER positive, HER-2 negative advanced breast cancer (in combination with letrozole) in postmenopausal women as initial endocrine-based therapy for metastatic disease in February 2015 based on randomized, open label, multicenter study of palbociclib plus letrozole versus letrozole alone. Overall response rate in subjects with measurable disease was higher in Palbociclib plus letrozole compared to letrozole alone arm (55.4% verses 39.4%). It is an orally available pyridopyrimidine-derived cyclin-dependent kinase 4 & 6 (CDK-4/6) inhibitor with antineoplastic activity. It also reduces in-vitro cellular proliferation of estrogen receptor positive breast cancer lines by blocking the progression of cells from G1 to S phase of cell cycle. Major side effects include neutropenia, diarrhea, epistaxis, thrombocytopenia and asthenia.

Amiodarone - Ledipasvir and Sofosbuvir Interaction

The USFDA has approved changes to the product label of Sofosbuvir and fixed dose combination product (sofosbuvir +Ledipasvir) following serious and life-threatening case reports of symptomatic bradycardia and one case report of fatal cardiac arrest reported with co-administration with amiodarone.

New Arrival: Ceftolozane - Tazobactam

Ceftolozone-Tazobactam has been approved by US FDA as a fifth generation cephalosporin. It is indicated for the treatment of complicated intra-abdominal infections (in combination with metronidazole) and complicated urinary tract infections in adult patients. The recommended dose is 1.5g I/V q8h and dose adjustment is required in renal impairment as it is excreted as unchanged drug (>95%) in the urine. Major side effects include hypotension, arterial fibrillation, hypokalemia, anemia, thrombocytopenia, GI upset and raised AST/ALT.

Diclofenac tablets now only available as a prescription medicine

According to Medicines and Healthcare products Regulatory Agency (MHRA) UK, Diclofenac tablets reclassified as a prescription medicine with an associated drug recall. This reclassification, effective from 15/01/2015, is due to a small but increased risk of serious cardiac adverse effects found in some patients taking Diclofenac, particularly if used at high doses and for long-term treatment.