



Hospital Authority Convention 2013

Speed Presentation Quality and Safety in Healthcare I

Electronic chemotherapy protocol prescription reduces medication errors and conserves time of physicians (SPP-P4.11)



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Introduction

- About 44,000 to 98,000 patients die every year in United State due to medical errors.[1]
 - Preventable
 - Medication errors is a major cause [2]
- Medication errors in chemotherapeutic drugs can be catastrophic as a result of high toxicity of drugs and poor health condition of cancer patients
 - Second most common cause of fatal medication errors.[3]
 - In one study, 13.4% and 2.6% of medication errors resulted in temporary damage and permanent damage to cancer patients respectively.[4]

1. Kohn LT, C.J., Donaldson MS, To err is human: Building a safer health system Washington DC, 1999.
2. Brennan, T.A., et al., Incidence of adverse events and negligence in hospitalized patients. Results of the Harvard Medical Practice Study I. N Engl J Med, 1991. 324(6): p. 370-6.
3. Phillips, J., et al., Retrospective analysis of mortalities associated with medication errors. Am J Health Syst Pharm, 2001. 58(19): p. 1835-41.
4. Ranchon, F., et al., Chemotherapeutic errors in hospitalised cancer patients: attributable damage and extra costs. BMC Cancer, 2011. 11: p. 478.



- Many chemotherapy regimens are quite complex.
- Drug dosage calculation is not only very time-consuming but also requires exceptional caution.
- Therefore, electronic chemotherapy protocol prescription has been introduced into our unit since September, 2012



PRINCESS MARGARET HOSPITAL HAEMATOLOGY TEAM DEPARTMENT OF MEDICINE CHEMOTHERAPY RECORD				
Height	cm	Weight	kg	SA m ²
Known Drug Sensitivities/Allergy				
Diagnosis			At diagnosis <input type="checkbox"/> Relapse <input type="checkbox"/>	

Chemotherapy Protocol :R-CEOP for Non-Hodgkin's Ly

Drugs

Regimen

Paracetamol

1000mg PO before **Rituximab**

Piriton

10mg IV before **Rituximab**

Rituximab _____mg in 500ml NS IVI
(375 mg/m²) over 4 hrs on Day 1

THEN

Cyclophosphamide _____mg IV in 250ml NS
(750 mg/m²/day) infuses over 15min on Day 1

Epirubicin _____mg IV bolus in a
(60 mg/m²/day) fasting running drip on Day 1

Vincristine
(1.4 mg/m²/day) _____ mg (max. 2 mg)
in 50ml NS IVI over 15r
on Day 1

Prednisolone _____mg daily/BD/tds/qid PO
(100 mg/m²/day) Day 1 to Day 5

Remarks:
Repeat every 3 weeks for 6 to 8 courses

(Dr. _____)

HOSPITAL AUTHORITY PRINCESS MARGARET HOSPITAL		(Please affix gum label if available) Name: _____ Sex/Age: _____				
CHEMOTHERAPY PRESCRIPTION SHEET (HAEMATOLOGY)		ID No: _____ Ward/Bed: _____ HN: _____ Dept: _____				
(<input type="checkbox"/> Please <input checked="" type="checkbox"/> where appropriate)						
NHL R-CEOP						
Cycle: 1st <input type="text"/>		Prescription Date: 12/05/2013 Starting Date: 15/05/2013				
<input type="checkbox"/> G6PD def <input type="checkbox"/> HBsAg <input checked="" type="checkbox"/> +ve <input type="checkbox"/> -ve <input type="checkbox"/> anti-HBc <input checked="" type="checkbox"/> +ve <input type="checkbox"/> -ve <input type="checkbox"/> HBV DNA <input checked="" type="checkbox"/> +ve <input type="checkbox"/> -ve <input type="checkbox"/> Ht 170.0 cm <input type="checkbox"/> Wt 70.0 kg <input type="checkbox"/> SA 1.81 m ²						
Known Drug Allergies: No known drug allergy						
Doctor Sign: <input type="text"/>	Day 1	Day 2	Day 3	Day 4	Day 5	For Pharm Use
Code: <input type="text"/>	Date: 15/05/2013	Date: 16/05/2013	Date: 17/05/2013	Date: 18/05/2013	Date: 19/05/2013	
Name: Dr. Kwok chi-hang Kevin <input type="text"/>						
Antiemetic & Others:						
Navoban 5mg IV daily before chemotherapy	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Paracetamol 1000mg PO before Rituximab	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Piriton 10mg IV before Rituximab	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Chemo Regimen:						
Rituximab 100% <input type="text"/> 700 mg (100 mg/m ²) in 500ml NS IVI over 4hours on D1	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Cyclophosphamide 75% <input type="text"/> 1018 mg (750mg/m ² /day) IV in 250ml NS infuses over 15min on D1	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Epirubicin 75% <input type="text"/> 81.4 mg (60mg/m ² /day) in 100ml NS over 30mins on D1	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Vincristine 100% <input type="text"/> 2.0 mg (1.4mg/m ² /day; max. 2mg) in 50ml NS IVI over 15mins on D1	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
Prednisolone 100% <input type="text"/> 60 mg (100mg/m ² /day) tds <input type="text"/> PO (D1-5)	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					
	Given by <input type="text"/> Check by <input type="text"/> Time <input type="text"/>					

CARD No : R 3075610									
Please Affix Patient's Label with BAR CODE									
be given against patient's Drug Allergy / Drug Alert say if False (say)									
1. Documenting the patient with this drug Or in gross					2. Details about the reported history of drug allergy				
Drug Allergy Over-riding Reason:									
Date _____									
<input type="checkbox"/> Patient is G6PD deficient									
Patient's COWI drug 1 2 3 4 5 6									
FOR ADMINISTRATION USE									
COWI No.	Date Time								FOR PHARMACY USE
COWI DATE									
COWI NAME (IN BLOCK LETTERS)									
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Medication Administration Record - Regular Medications

MR 3091 /PM

on _____ on _____	Item to (_____) on _____ Item to (_____) on _____	Completed on _____ Checked by _____
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Results

- Eliminates the human errors in prescription (up to 5%)
- Mean time spending on chemotherapy prescription
 - Reduced from 64s (ranging from 53 to 82s) to 14s (ranging from 13 to 17s), i.e. 78% reduction.
 - Save at least 30 working hours of haematologists on drug prescription every year



Conclusion

- Electronic chemotherapy prescription can reduce medication errors and conserve time of physicians

