

IP HIGH DOSE METHOTREXATE / LEUCOVORIN (DAY 2)

Types: ONCOLOGY TREATMENT

Synonyms: MTX, METHOTREXATE, LEUCO, LEUCOVORIN, HIGH DOSE, PRIMARY, LYMPHOMA

Cycle 1	Repeat 1 time	Cycle length: 14 days
Day 1 Perform every 1 day x1		
Provider Communication		
ONC PROVIDER COMMUNICATION 5 Interval: Once Occurrences: -- Comments: Use baseline weight to calculate dose. Adjust dose for weight gains/losses of greater than or equal to 10%.		
Labs		
<input checked="" type="checkbox"/> COMPREHENSIVE METABOLIC PANEL Interval: Once Occurrences: --		
<input checked="" type="checkbox"/> CBC WITH PLATELET AND DIFFERENTIAL Interval: Once Occurrences: --		
<input type="checkbox"/> BASIC METABOLIC PANEL Interval: Once Occurrences: --		
<input checked="" type="checkbox"/> MAGNESIUM LEVEL Interval: Once Occurrences: --		
<input type="checkbox"/> LDH Interval: Once Occurrences: --		
<input type="checkbox"/> URIC ACID LEVEL Interval: Once Occurrences: --		
<input type="checkbox"/> ECHOCARDIOGRAM COMPLETE W CONTRAST AND 3D IF NEEDED Interval: 1 time imaging Occurrences: --		
<input checked="" type="checkbox"/> METHOTREXATE LEVEL Interval: Timed Occurrences: -- Comments: Timed draw frequency based on MTX dose. Verify with MD for draw frequency.		
Labs		
PH, URINALYSIS Interval: Conditional Frequency Occurrences: -- Comments: Draw prior to starting Methotrexate and PRN until pH GREATER than 7. Then draw urine pH every 8 hours until Methotrexate is LESS than 0.05.		
Nursing Orders		
TREATMENT CONDITIONS 7 Interval: Once Occurrences: -- Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000.		
Nursing Orders		
ONC NURSING COMMUNICATION 35 Interval: Once Occurrences: --		

- Comments:
- 1) NO carbonated beverages or fruit juices
 - 2) Obtain weight and height on date of admission. Obtain weight every 8 hours
 - 3) Strict I&O's every 8 hours
 - 4) Check urine output every 4 hours
 - 5) Check urine pH every shift with Nitrazine paper

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN
 Start: S

Nursing Orders

sodium chloride 0.9 % infusion 250 mL

Dose: 250 mL Route: intravenous once @ 30 mL/hr for 1 dose
 Start: S
 Instructions:
 To keep vein open.

Pre-Hydration

dextrose 5% 1,000 mL with sodium acetate 100 mEq infusion

Dose: 125 mL/hr Route: intravenous continuous
 Start: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	DEXTROSE 5 % IN	Base	1,000 mL	Yes	Yes
	WATER (D5W)				
	INTRAVENOUS				
	SOLUTION				

dextrose 5% 1,000 mL with sodium bicarbonate 100 mEq infusion

Dose: 125 mL/hr Route: intravenous continuous
 Start: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	DEXTROSE 5 % IN	Base	1,000 mL	Yes	Yes
	WATER (D5W)				
	INTRAVENOUS				
	SOLUTION				

Pre-Medications

ondansetron (ZOFRAN) 16 mg, dexamethasone (DECADRON) 12 mg in sodium chloride 0.9% 50 mL IVPB

Dose: -- Route: intravenous once over 15 Minutes for 1 dose
 Start: S End: S 11:30 AM

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	ONDANSETRON HCL (PF) 4 MG/2 ML INJECTION SOLUTION	Medications	16 mg	Yes	No
	DEXAMETHASONE 4 MG/ML INJECTION SOLUTION	Medications	12 mg	Yes	No
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base	50 mL	Always	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base		No	Yes

ondansetron (ZOFRAN) tablet 16 mg
 Dose: 16 mg Route: oral once for 1 dose
 Start: S End: S 11:30 AM

dexamethasone (DECADRON) tablet 12 mg
 Dose: 12 mg Route: oral once for 1 dose
 Start: S

aprepitant (CINVANTI) 130 mg in dextrose (NON-PVC) 5% 130 mL IVPB

Dose: 130 mg Route: intravenous once over 30 Minutes for 1 dose
 Start: S End: S

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	APREPITANT 7.2 MG/ML	Medications	130 mg	Main Inredient	Yes

INTRAVENOUS EMULSION DEXTROSE 5 % IN WATER (D5W) IV SOLP (EXCEL; NON-PVC)	Base	130 mL	Yes	Yes
SODIUM CHLORIDE 0.9 % IV SOLP (EXCEL;NON-PVC)	Base	130 mL	No	Yes

Medications

furosemide (LASIX) injection 5 mg

Dose: 5 mg Route: intravenous once for 1 dose
 Start: S End: S 8:00 PM
 Instructions:
 Give if daily weight is GREATER THAN 0.5 kg
 above admission weight

furosemide (LASIX) injection 10 mg

Dose: 10 mg Route: intravenous once for 1 dose
 Start: S End: S 8:00 PM
 Instructions:
 Give if daily weight is GREATER THAN 1.0 kg
 above admission weight

furosemide (LASIX) injection 15 mg

Dose: 15 mg Route: intravenous once for 1 dose
 Start: S End: S 8:00 PM
 Instructions:
 Give if daily weight is GREATER THAN 1.5 kg
 above admission weight

Nursing Orders

ONC NURSING COMMUNICATION 33

Interval: Until Occurrences: --
 discontinued
 Comments: Call MD if urine pH less than 7.0 with each void

Medications

sodium bicarbonate tablet 3,250 mg

Dose: 3,250 mg Route: oral every 4 hours while awake
 Start: S
 Instructions:
 Give until Methotrexate level is LESS THAN or
 EQUAL to 0.09 mmol

Chemotherapy

methotrexate PF in sodium chloride 0.9 % 500 mL chemo IVPB

Dose: -- Route: intravenous once over 4 Hours for 1 dose
 Offset: 4 Hours

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	METHOTREXATE SODIUM (PF) 25 MG/ML INJECTION SOLUTION	Medications		Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS	QS Base	500 mL	No	Yes

SOLUTION
SODIUM QS Base 500 mL Yes Yes
CHLORIDE 0.9 %
INTRAVENOUS
SOLUTION

Hematology & Oncology Hypersensitivity Reaction Standing Order

ONC NURSING COMMUNICATION 82

Interval: Until
discontinued

Occurrences: --

Comments:

Grade 1 - MILD Symptoms (cutaneous and subcutaneous symptoms only – itching, flushing, periorbital edema, rash, or runny nose)

1. Stop the infusion.
2. Place the patient on continuous monitoring.
3. Obtain vital signs.
4. Administer Normal Saline at 50 mL per hour using a new bag and new intravenous tubing.
5. If greater than or equal to 30 minutes since the last dose of Diphenhydramine, administer Diphenhydramine 25 mg intravenous once.
6. If less than 30 minutes since the last dose of Diphenhydramine, administer Fexofenadine 180 mg orally and Famotidine 20 mg intravenous once.
7. Notify the treating physician.
8. If no improvement after 15 minutes, advance level of care to Grade 2 (Moderate) or Grade 3 (Severe).
9. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

ONC NURSING COMMUNICATION 83

Interval: Until
discontinued

Occurrences: --

Comments:

Grade 2 – MODERATE Symptoms (cardiovascular, respiratory, or gastrointestinal symptoms – shortness of breath, wheezing, nausea, vomiting, dizziness, diaphoresis, throat or chest tightness, abdominal or back pain)

1. Stop the infusion.
2. Notify the CERT team and treating physician immediately.
3. Place the patient on continuous monitoring.
4. Obtain vital signs.
5. Administer Oxygen at 2 L per minute via nasal cannula. Titrate to maintain O2 saturation of greater than or equal to 92%.
6. Administer Normal Saline at 150 mL per hour using a new bag and new intravenous tubing.
7. Administer Hydrocortisone 100 mg intravenous (if patient has allergy to Hydrocortisone, please administer Dexamethasone 4 mg intravenous), Fexofenadine 180 mg orally and Famotidine 20 mg intravenous once.
8. If no improvement after 15 minutes, advance level of care to Grade 3 (Severe).
9. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

ONC NURSING COMMUNICATION 4

Interval: Until
discontinued

Occurrences: --

Comments:

Grade 3 – SEVERE Symptoms (hypoxia, hypotension, or neurologic compromise – cyanosis or O2 saturation less than 92%, hypotension with systolic blood pressure less than 90 mmHg, confusion, collapse, loss of consciousness, or incontinence)

1. Stop the infusion.
2. Notify the CERT team and treating physician immediately.

3. Place the patient on continuous monitoring.
4. Obtain vital signs.
5. If heart rate is less than 50 or greater than 120, or blood pressure is less than 90/50 mmHg, place patient in reclined or flattened position.
6. Administer Oxygen at 2 L per minute via nasal cannula. Titrate to maintain O2 saturation of greater than or equal to 92%.
7. Administer Normal Saline at 1000 mL intravenous bolus using a new bag and new intravenous tubing.
8. Administer Hydrocortisone 100 mg intravenous (if patient has allergy to Hydrocortisone, please administer Dexamethasone 4 mg intravenous) and Famotidine 20 mg intravenous once.
9. Administer Epinephrine (1:1000) 0.3 mg subcutaneous.
10. Assess vital signs every 15 minutes until resolution of symptoms or otherwise ordered by covering physician.

diphenhydramine (BENADRYL) injection 25

mg

Dose: 25 mg Route: intravenous PRN
Start: S

fexofenadine (ALLEGRA) tablet 180 mg

Dose: 180 mg Route: oral PRN
Start: S

famotidine (PEPCID) 20 mg/2 mL injection 20

mg

Dose: 20 mg Route: intravenous PRN
Start: S

hydrocortisone sodium succinate (Solu-CORTEF) injection 100 mg

Dose: 100 mg Route: intravenous PRN

dexamethasone (DECADRON) injection 4 mg

Dose: 4 mg Route: intravenous PRN
Start: S

epinephrine (ADRENALIN) 1 mg/10 mL ADULT injection syringe 0.3 mg

Dose: 0.3 mg Route: subcutaneous PRN
Start: S

Discharge Nursing Orders

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL Route: intravenous PRN

HEParin, porcine (PF) injection 500 Units

Dose: 500 Units Route: intra-catheter once PRN
Start: S

Instructions:

Concentration: 100 units/mL. Heparin flush for Implanted Vascular Access Device maintenance.

Day 2

Perform every 1 day x1

Labs

BASIC METABOLIC PANEL

Interval: Once Occurrences: --

Labs

METHOTREXATE LEVEL

Interval: Once Occurrences: --

PH, URINALYSIS

Interval: Conditional
Frequency

Occurrences: --

Comments:

Draw prior to starting Methotrexate and PRN until pH GREATER than 7.
Then draw urine pH every day until MTX is LESS than 0.05

Nursing Orders

ONC NURSING COMMUNICATION 35

Interval: Once

Occurrences: --

Comments:

- 1) NO carbonated beverages or fruit juices
- 2) Obtain weight and height on date of admission. Obtain weight every 8 hours
- 3) Strict I&O's every 8 hours
- 4) Check urine output every 4 hours
- 5) Check urine pH every shift with Nitrazine paper

Nursing Orders

sodium chloride 0.9 % infusion 250 mL

Dose: 250 mL

Route: intravenous

once @ 30 mL/hr for 1 dose

Start: S

Instructions:

To keep vein open.

Medications

furosemide (LASIX) injection 5 mg

Dose: 5 mg

Route: intravenous

once for 1 dose

Start: S

End: S 8:00 PM

Instructions:

Give if daily weight is GREATER THAN 0.5 kg
above admission weight

furosemide (LASIX) injection 10 mg

Dose: 10 mg

Route: intravenous

once for 1 dose

Start: S

End: S 8:00 PM

Instructions:

Give if daily weight is GREATER THAN 1.0 kg
above admission weight

furosemide (LASIX) injection 15 mg

Dose: 15 mg

Route: intravenous

once for 1 dose

Start: S

End: S 8:00 PM

Instructions:

Give if daily weight is GREATER THAN 1.5 kg
above admission weight

Nursing Orders

ONC NURSING COMMUNICATION 33

Interval: Until
discontinued

Occurrences: --

Comments:

Call MD if urine pH less than 7.0 with each void

Medications

sodium bicarbonate tablet 3,250 mg

Dose: 3,250 mg

Route: oral

every 4 hours while awake

Start: S

Instructions:

Give until Methotrexate level is LESS THAN or
EQUAL to 0.09 mmol

Chemotherapy

leucovorin 25 mg in sodium chloride 0.9 % 100 mL chemo IVPB

Dose: 25 mg Route: intravenous continuous over 2 Hours
Offset: 0 Hours

Instructions:

-Begin initial infusion EXACTLY 24 hours after
START of Methotrexate infusion

-Continue until MTX level is LESS THAN or
EQUAL to 0.05 umol/L

Ingredients:

Name	Type	Dose	Selected	Adds Vol.
LEUCOVORIN CALCIUM 350 MG SOLUTION FOR INJECTION	Medications	25 mg	Main Ingredient	Yes
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	100 mL	No	Yes
SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	98.75 mL	Yes	Yes

ONC NURSING COMMUNICATION 34

Interval: Until
discontinued

Occurrences: --

Comments:

Check MTX levels DAILY beginning EXACTLY 24 hours AFTER
completion of MTX infusion until MTX level is LESS THAN 0.05 umol/L