Protocol Index

IP DEANGELIS WITH RITUXIMAB - METHOTREXATE / VINCRISTINE / LEUCOVORIN / PROCARBAZINE (CYCLES 1,3,5)

Types: ONCOLOGY TREATMENT
Synonyms: PRIMARY, CENTRAL, CNS, LYMPH, MTX, ONCOV, METHOT, VINCR, PROCARB, DEANGELIS, DEAN, RITUX

Cycle 1 — Repeat 1 time — Cycle length: 14 days

Day 1 — Perform every 1 day x1

Labs

☑ **COMPREHENSIVE METABOLIC PANEL**
Interval: Once — Occurrences: --

☑ **CBC WITH PLATELET AND DIFFERENTIAL**
Interval: Once — Occurrences: --

☑ **MAGNESIUM LEVEL**
Interval: Once — Occurrences: --

☑ **LDH**
Interval: Once — Occurrences: --

☑ **URIC ACID LEVEL**
Interval: Once — Occurrences: --

☑ **PHOSPHORUS LEVEL**
Interval: Once — Occurrences: --

Labs

☑ **METHOTREXATE LEVEL**
Interval: Once — Occurrences: --

☑ **PH, URINALYSIS**
Interval: Conditional — Occurrences: --
Frequency
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

Provider Communication

ONC PROVIDER COMMUNICATION 58
Interval: Once — Occurrences: --
Comments: Prior to beginning Rituxan infusion, please check if a Hepatitis B and C serology has been performed within the past 6 months. Hepatitis B and C serologies results: Push F2:11554001 drawn on ***.

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%.

Provider Communication

ONC PROVIDER COMMUNICATION 12
Interval: Until discontinued — Occurrences: --

Comments: Careful monitoring of pulmonary function tests should be performed prior to initiation of therapy and periodically during therapy for patients on methotrexate, lomustine, carmustine, aldesleukin, nilutamide, or bleomycin. If patient has not had baseline pulmonary function tests and/or does not have scheduled pulmonary function tests for future doses, place order via order entry.

Provider Communication

ONC PROVIDER COMMUNICATION 13

Interval: Until discontinued | Occurrences: --

Comments: Chest x-rays should be performed prior to initiation of therapy and periodically during therapy for patients on methotrexate, aldesleukin, nilutamide, or bleomycin. If patient has not had baseline chest x-ray and/or does not have scheduled chest x-rays for future doses, place order via order entry.

Provider Communication

ONC PROVIDER COMMUNICATION 14

Interval: Until discontinued | Occurrences: --

Comments: No salicylates, NSAIDS or sulfa drugs concurrent or a week before treatment starts.

Nursing Orders

ONC NURSING COMMUNICATION 75

Interval: Until discontinued | Occurrences: --

Comments: Please verify that patient has not taken any salicylates, NSAIDS or sulfa drugs concurrent or a week before treatment starts.

Nursing Orders

ONC NURSING COMMUNICATION 64

Interval: Until discontinued | Occurrences: --

Comments: Draw methotrexate level for 24 hours, 48 hours and 72 hours AFTER COMPLETION of methotrexate infusion and send STAT. Obtain level every 24 hours until methotrexate level is LESS than 0.05.

Check STAT urine pH prior to starting Methotrexate and then every 8 hours. If urine pH is LESS than 7, administer 50 mEq sodium bicarbonate and recheck in 1 hour. If still LESS than 7, repeat 50 mEq sodium bicarbonate and recheck in 1 hour. If still LESS than 7, call provider.

The syringe that the blood is sent to lab in needs to be COVERED (brown bag/paper towel) going to the lab.

Nursing Orders

TREATMENT CONDITIONS 7

Interval: Until discontinued | Occurrences: --

Comments: HOLD and notify provider if ANC LESS than 1000; Platelets LESS than 100,000.

Line Flush

sodium chloride 0.9 % flush 20 mL

Dose: 20 mL | Route: intravenous | PRN

Start: S

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 INTRAVENOUS EMULSION	Medications	130 mg	Main Ingredient	Yes
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

Pre-Hydration

dextrose 5% 1,000 mL with sodium bicarbonate 150 mEq infusion

Dose: 150 mL/hr Route: intravenous continuous
Start: S
Instructions:
Run until methotrexate level is LESS than 0.05 micromol/L.

Ingredients:

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

Chemotherapy

procarbazine (MATULANE) chemo capsule 100 mg/m2 (Treatment Plan)

Dose: 100 mg/m2 Route: oral daily for 7 doses
Offset: 30 Minutes

Instructions:
CYTOTOXIC AGENT/DO NOT OPEN OR CRUSH. Swallow whole. Diet Alteration Required: Avoid tyramine containing foods during and up to four weeks after MAOI therapy is discontinued.

Chemotherapy

vinCRIStine (ONCOVIN) 1.4 mg/m2 in sodium chloride 0.9 % 50 mL chemo IVPB

Dose: 1.4 mg/m2 Route: intravenous once over 10 Minutes for 1 dose
Offset: 30 Minutes

Instructions:
DRUG IS A VESICANT. FATAL IF GIVEN INTRATHECALLY. Maximum dose = 2.8 mg.

Rule-Based Template: RULE ONCBCN VINCRISTINE 1.4 MG/M2

Conditions:	Modifications:
BSA < 1.43 m2	Set dose to 1.4 mg/m2
BSA >= 1.43 m2	Set dose to 2.8 mg

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	VINCRISTINE 1 MG/ML INTRAVENOUS SOLUTION	Medications	1.4 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	50 mL	Yes	Yes

Chemotherapy

methotrexate PF 2,500 mg/m2 in sodium chloride 0.9 % 500 mL chemo IVPB

Dose: 2,500 mg/m2 Route: intravenous once over 3 Hours for 1 dose

Offset: 60 Minutes

Instructions:
START methotrexate only after urine pH GREATER than 7.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	METHOTREXATE SODIUM (PF) 25 MG/ML INJECTION SOLUTION	Medications	2,500 mg/m2	Main Ingredient	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	500 mL	No	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	QS Base	500 mL	Yes	Yes

Rituximab Pre-Medications

acetaminophen (TYLENOL) tablet 650 mg
Dose: 650 mg Route: oral once for 1 dose
Start: S
Instructions:
Give 30 minutes before rituximab infusion.

diphenhydrAMINE (BENADRYL) injection 25 mg
Dose: 25 mg Route: intravenous once for 1 dose
Start: S
Instructions:
Give 30 minutes before rituximab infusion.

sodium chloride 0.9 % infusion 500 mL
Dose: 500 mL Route: intravenous continuous
Start: S

Pharmacy Consult

PHARMACY CONSULT TO SCREEN FOR RAPID RITUXIMAB INFUSION
Interval: -- Occurrences: --

Chemotherapy

☑ **RiTUXimab (PF) (RITUXAN) 500 mg/m2 in sodium chloride 0.9% INITIAL INFUSION RATE IVPB**
Dose: 500 mg/m2 Route: intravenous once for 1 dose
Offset: 2 Hours

Instructions:
Initiate infusion at rate of 50 mg/hour. In the absence of infusion toxicity (SBP within 20 mmHG of baseline, PULSE between 60 and 120 and TEMP less than 38 degrees C, and no symptoms), then increase infusion rate by 50 mg/hour every 30 minutes, to a maximum rate of 400 mg/hour.

Ingredients:	Name	Type	Dose	Selected	Adds Vol.
	RITUXIMAB 10 MG/ML CONCENTRATE,INTRAVENOUS	Medications	500 mg/m2	Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base		Yes	Yes
	DEXTROSE 5 % IN	Base		No	Yes

	WATER (D5W) INTRAVENOUS SOLUTION				

☐ **RiTUXimab (PF) (RITUXAN) in sodium chloride 0.9% NON-INITIAL INFUSION IVPB**

Dose: -- Route: intravenous once for 1 dose
Offset: 2 Hours

Instructions:
Initiate infusion rate at a 100 mg/hour. In the absence of infusion toxicity (SBP within 20 mmHG of baseline, PULSE between 60 and 120 and TEMP less than 38 degrees C, and no symptoms), increase rate by 100 mg/hour increments at 30 minute intervals, to a maximum rate of 400 mg/hour.

Ingredients:	**Name**	**Type**	**Dose**	**Selected**	**Adds Vol.**
	RITUXIMAB 10 MG/ML CONCENTRATE,INTRAVENOUS	Medications		Main Ingredient	Yes
	SODIUM CHLORIDE 0.9 % INTRAVENOUS SOLUTION	Base		Yes	Yes
	DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	Base		No	Yes

☐ **RiTUXimab (PF) (RITUXAN) 500 mg/m2 in sodium chloride 0.9% 250 mL RAPID INFUSION RATE IVPB**

Dose: 500 mg/m2 Route: intravenous once over 90 Minutes for 1 dose
Offset: 2 Hours

Instructions:
RAPID INFUSION RATE: Initiate infusion at a rate of 100mL/hour. After 30 minutes, in the absence of infusion reactions (SBP within 20 mmHg of baseline, PULSE between 60 and 120 and Temp less than 38 degrees C, and no symptoms), increase the infusion rate to 200mL/hour. This infusion should take 90 minutes to administer.

Reaction grades:

Grade 3 Reaction: Prolonged (e.g., not rapidly responsive to symptomatic medication and/or brief interruption of infusion); recurrence of symptoms following initial improvement; hospitalization indicated for clinical sequelae (e.g., renal impairment, pulmonary infiltrates).

Grade 4 Reaction: Life-threatening consequences; urgent intervention indicated (e.g., vasopressors or ventilator support).

Ingredients:	**Name**	**Type**	**Dose**	**Selected**	**Adds Vol.**
	RITUXIMAB 10 MG/ML CONCENTRATE,INTRAVENOUS	Medications	500 mg/m2	Main Ingredient	Yes
	SODIUM	QS Base	250 mL	Yes	Yes

CHLORIDE 0.9 % INTRAVENOUS SOLUTION			
DEXTROSE 5 % IN WATER (D5W) INTRAVENOUS SOLUTION	QS Base	No	Yes

Rituximab Instructions

VITAL SIGNS - T/P/R/BP PER UNIT PROTOCOL

Interval: Until discontinued — Occurrences: --

Comments:

1) During Rituximab infusion:
-Vitals every 15 minutes during 1st hour of infusion, THEN
-Every 30 minutes for 1 hour, THEN
-Every hour until end of infusion
-Call MD if SBP less than 90, pulse less than 60 or greater than 120, temperature greater than 38.5 degrees C

ONC NURSING COMMUNICATION 26

Interval: Until discontinued — Occurrences: --

Comments:

2) Infuse antibody via pump
3) If any of the following occurs: FEVER (temperature greater than 38.5 degrees Celsius), RIGORS, HYPOTENSION (30mm Hg decrease from baseline), and/or MUCOSAL CONGESTION / EDEMA, HOLD infusion until improvement of symptoms (When symptoms improve, resume infusion at HALF the previous rate)

Rituximab Infusion Reaction Orders

meperidine (DEMEROL) injection 25 mg

Dose: 25 mg — Route: intravenous — once PRN
Start: S

diphenhydrAMINE (BENADRYL) injection 25 mg

Dose: 25 mg — Route: intravenous — once PRN
Start: S

hydrocortisone sodium succinate (Solu-CORTEF) injection 100 mg

Dose: 100 mg — Route: intravenous — once PRN

famotidine (PEPCID) injection 20 mg

Dose: 20 mg — Route: intravenous — once PRN
Start: S

Rituximab Additional Orders

epINEPHrine (ADRENALIN) 1 mg/1 mL injection 0.3 mg

Dose: 0.3 mg — Route: intramuscular — once PRN
Start: S

Supportive Care

sodium bicarbonate 1 mEq/mL (8.4 %) injection 50 mEq

Dose: 50 mEq — Route: intravenous — every 8 hours PRN
Start: S
Instructions:

Check urine pH prior to start of methotrexate and then every shift.

If urine pH is LESS than 7, administer 50 mEq sodium bicarbonate and recheck in 1 hour.

If still LESS than 7, repeat 50 mEq sodium bicarbonate and recheck in 1 hour.
If still LESS than 7, call Physician.

Continue until methotrexate levels are LESS than 0.05 or patient is discharged.

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

Chemotherapy

leucovorin IV 50 mg

Dose: 50 mg | Route: intravenous | every 6 hours over 30 Minutes
Start: S
Instructions:
Give 24 hours AFTER COMPLETION of methotrexate infusion.

Continue every 6 hours until levels are LESS than 0.05 micromol/L.

Day 8 — Perform every 1 day x1

Intrathecal Injections

methotrexate PF 12 mg in sodium chloride 0.9% 5 mL chemo PF INTRATHECAL injection

Dose: 12 mg | Route: intrathecal | once over 5 Minutes for 1 dose
Start: S | End: S
Instructions:
Preservative free for intrathecal use.

Ingredients:

Name	Type	Dose	Selected	Adds Vol.
METHOTREXATE SODIUM (PF) 25 MG/ML INJECTION SOLUTION	Medications	12 mg	Main Ingredient	Yes
SODIUM CHLORIDE 0.9 % INJECTION SOLUTION	QS Base	4.52 mL	Yes	Yes