Protocol Synonyms

Synonyms
UKHC
ONC
ALIMTA
PARAPLATIN
NSCLC
LUNG
OPDIVO
YERVY
ADENOCARCINOMA
SQUAMOUS
9LA

PEMExtrexed + CARBOplatin Every 21 Days x 2 / Nivolumab / Iplimumab Every 42 Days

Version Created On 5/8/2023

Protocol Summary

Version Comment
New Hypersensitivity updated

Description
Nivolumab 360 mg IV D1 D22; Iplimumab 1 mg/kg IV D1; PEMExtrexed 500 mg/m2 IV D1 22, CARBOplatin AUC 5 IV D1 D22; Cycle 1, 42 days/cycle
Nivolumab 360 mg IV D1 D22; Iplimumab 1 mg/kg IV D1; Cycles 2+, 42 days/cycle

Protocol Notes
Reference:

Protocol Types
Oncology Treatment

Protocol Suggestion Tags
Standard of Care
Thoracic
Non-Small Cell Lung Cancer (NSCLC)
Adult
Lung
Neuroendocrine

Research Protocol
No

BMT Protocol
No

Dosing
Show a warning if the patient’s documented weight differs from the treatment plan weight by: 10% (System Default)
Show a warning if the patient’s documented BSA differs from the treatment plan BSA by: 10% (System Default)

Default CrCl Formula: Cockcroft Gault (min SCR 0.7) (System Default)  
Allow CrCl Formula to be Changed: Yes

Default BSA Formula: DuBois and DuBois  
Allow BSA Formula to be Changed: Yes (System Default)

Correction Factor: 40% (System Default)  
Allow Correction Factor to be Changed: No

Default Dosing Option: Use documented weight and BSA (System Default)  
Allow Max BSA to be Changed: Yes (System Default)

Target AUC: 5 mg/mL/min

Other Information
**Day 1, Prescription - Outpatient - Day Length: 1, Cycle Length: 1 (Perform 1 times)**

**Prescriptions**

- **dexamethasone (Decadron) 4 MG tablet**
  Take 1 tab (4 mg) by mouth twice daily the day before, day of, and for two days after PEMEtrexed
  Starting S, Disp-16 tablet, R-0, Normal

- **folic acid (Folvite) 1 MG tablet**
  Start 7 days before first PEMEtrexed dose, continue until 21 days after last dose of PEMEtrexed
  1 mg, Oral, Daily Starting S Until Discontinued, Disp-30 tablet, R-1, Normal

- **prochlorperazine (Compazine) 10 MG tablet**
  10 mg, Oral, Every 6 hours PRN Starting S Until Discontinued, nausea, vomiting, Disp-30 tablet, R-5, Normal

**Day 1, Cycle 1 - Outpatient - Day Length: 1, Cycle Length: 42**

**Appointment Requests**

- **Clinic Appointment Request**
  Status: Future, Expected: S, Expires: S+365, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

- **Infusion Appointment Request-5 hours (Single-Select)**
  **Infusion Appointment Request**
  Status: Future, Expected: S, Expires: S+366, Sched. Duration: 300 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

- **PMC infusion Appointment Request**
  Status: Future, Expected: S, Expires: S+366, Sched. Duration: 300 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after
  Selection conditions: Checks if plan is from research PRL

**Labs**

Labs-CBC+Differential/ CMP/ hHCG (optional) (Multi-Select)

- **CBC and differential**

- **Comprehensive metabolic panel**

- **hCG, quantitative, pregnancy**
  Selection conditions: Patient could become pregnant and patient is 12 years or older.

- **TSH reflex FT4**

- **Magnesium**

**Treatment Parameters**

- Okay to give chemotherapy only if the following parameters are met:
  - Platelets GREATER THAN OR EQUAL to 100,000/ul.
- ANC GREATER THAN OR EQUAL to 1,000/µL
- Creatinine Clearance GREATER THAN or EQUAL TO 45 mL/minute
- AST/ALT LESS THAN OR EQUAL TO 3 x ULN; Total Bilirubin LESS THAN OR EQUAL TO 1.5 x ULN
- Do not administer to patients with colitis, pneumonitis

**Communication Orders**

**Communication Orders**
- Patient should not receive NSAIDS two days prior, the day of, and for two days after Pemetrexed
- Pemetrexed should not be administered in the presence of ascites and/or pleural effusion

Confirm that the patient has taken the following:
- Folic acid 1 mg PO daily starting 7 days prior to first dose of Pemetrexed (to continue until 21 days after last Pemetrexed dose)
- Cyanocobalamin (Vitamin B12) 1 mg IM every 3 cycles beginning 1 to 2 weeks prior to first dose of Pemetrexed
- Dexamethasone 4 mg PO twice daily the day prior to receiving Pemetrexed (can continue treatment if not).

**Communication Order**
If patient has received Cyanocobalamin (Vitamin B-12) dose within 9 weeks of beginning this cycle, please DELETE order for B-12 injection

**Line Care Communication (Single-Select)**

**Communication Orders**
Nurse to place line care therapy plan to provide appropriate line care for patient's line (peripheral line or central line therapy plan).

**Nursing communication**
Monitor vital signs prior to infusion, then every 15 minutes until 1 hour after infusion on 1st dose. All patients with history of infusion reactions to this immunotherapy should be monitored every 15 minutes until 1 hour after the end of each infusion.

**Communication Orders-Negative BHCG Prior to Receiving Chemotherapy (Multi-Select)**

**Communication Orders**
Obtain bHCG for persons of childbearing potential prior to initiating chemotherapy.
Selection conditions: Patient could become pregnant and patient is 12 years or older.

**Pre-Medications**

*aprepitant (Cinvanti)* IV 130 mg
130 mg, Intravenous, Administer over: 2 Minutes, Once, Starting at treatment start time
Administer 30 minutes prior to treatment.

*ondansetron ODT (Zofran-ODT) disintegrating tablet* 16 mg
16 mg, Oral, Once, Starting at treatment start time
Administer 30 minutes prior to treatment.

**Communication Orders**
Confirm the patient has started dexamethasone 4 mg PO BID 1 day prior to PEMEtrexed.

dexamethasone (Decadron) injection 8 mg
8 mg, Intravenous, Once, Starting at treatment start time
If patient did not take oral dexamethasone at home the previous day

**Chemotherapy**

*nivolumab (Opdivo)* IV 360 mg
360 mg, Intravenous, Administer over: 30 Minutes, Once, Starting at treatment start time
NS 100 mL

*ipilimumab (Yervoy)* IV 1 mg/kg (Treatment Plan)
Weight: Treatment plan weight
1 mg/kg, Intravenous, Administer over: 30 Minutes, Once, Starting 30 minutes after treatment start time
Dilute in NS (Final concentration 1-2mg/mL)

**PEMEtrexed (Alimta)** IV 500 mg/m2 (Treatment Plan)
Weight: Treatment plan weight
500 mg/m2, Intravenous, Administer over: 10 Minutes, Once, Starting 60 minutes after treatment start time
In 100 mL NS

**CARBOplatin (Paraplatin)** IVPB
Intravenous, Administer over: 30 Minutes, Once, Starting 70 minutes after treatment start time
250mL NS
Supportive Care

cyanocobalamin (Vitamin B-12) injection 1,000 mcg
1,000 mcg, Intramuscular, Once
Due every three cycles beginning 1 to 2 weeks prior to starting Pemetrexed

PRN Medications

prochlorperazine (Compazine) tablet 10 mg
10 mg, Oral, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use if able to take PO

prochlorperazine (Compazine) injection 10 mg
10 mg, Intravenous, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use IV if unable to take PO

Hypersensitivity Medications

Hypersensitivity Protocol Add-on
For CARBOplatin reactions GREATER THAN or EQUAL to Grade 2, hold infusion and notify MD for instructions regarding rechallenging versus discontinuing CARBOplatin. All other hypersensitivity management to occur per hypersensitivity protocol instructions below.

Hypersensitivity Protocol
CHEMOTHERAPY HYPERSENSITIVITY PROTOCOL
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):
GRADE 1: Mild Symptoms: Mild flushing, rash, pruritus; chills
- No pharmacologic treatment indicated
- Consider decreasing the rate of infusion until recovery of symptoms
- Complete infusion at initial planned rate and observe patient closely during remainder of infusion
GRADE 2: Moderate Symptoms: Moderate flushing, rash; mild dyspnea; chest discomfort; pain in abdomen/pelvis/back
- Stop chemotherapy
  - Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT
- After recovery, resume infusion at 10 mL/hour for 15 minutes, then 25 mL/hour for 15 minutes, then, if no further symptoms, at full dose rate until infusion is complete. Observe patient closely during remainder of infusion.
  - If moderate or severe symptoms recur after re-challenge, stop chemotherapy infusion and notify MD
GRADE 3/4: Severe/life-threatening Symptoms: Hypotension requiring vasopressors; angioedema; respiratory distress requiring bronchodilators; generalized urticaria; anaphylaxis
- Stop chemotherapy and notify MD
  - Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT and famotidine 20mg IV STAT
  - For anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT.
  - If platelet count unknown, administer IV. Call Rapid Response STAT.
  - Add albuterol HFA 90mcg inhaler 2 puffs STAT for respiratory distress

Hypersensitivity Protocol
IMMUNOTHERAPY HYPERSENSITIVITY PROTOCOL
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):
GRADE 1: Mild pruritus, flushing, or rash
- Increase monitoring of vital signs until completion of infusion
GRADE 2: Generalized pruritus, flushing or rash; dyspnea, hypotension with SBP>80
- Stop infusion and notify MD
  - Administer diphenhydramine 50mg IV
  - If symptoms resolve within 1 hour of stopping infusion, restart infusion at 50% infusion rate at which symptoms occurred. Observe patient closely during the remainder of infusion. If symptoms recur after re-challenge, stop infusion and notify MD.
GRADE 3/4: Bronchospasm, generalized urticaria, SBP <80 or angioedema; anaphylaxis
  - Immediately discontinue infusion and disconnect infusion tubing from the patient and notify MD
  - Administer diphenhydramine 50mg IV, methylprednisolone 80mg IV PRN, and famotidine 20mg IV PRN.
  - If anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT.
  - If platelet count unknown, administer IV.
  - Escalate to emergency response team STAT.

diphenhydRAMINE (BENADRYL) injection 25 mg
25 mg, Intravenous, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

diphenhydRAMINE (BENADRYL) injection 25 mg
25 mg, Intramuscular, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give IntraMuscular for hypersensitivity reaction if no IV access

diphenhydrAMINE (BENADRYL) injection 50 mg
50 mg, Intravenous, Once as needed, Grade 2, 3, 4, IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

famotidine (Pepcid) injection 20 mg
20 mg, Intravenous, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 40 mg
40 mg, Intramuscular, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give IntraMuscular for hypersensitivity reaction if no IV access

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 40 mg
40 mg, Intravenous, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 80 mg
80 mg, Intravenous, Once as needed, Grade 3, 4 IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

albuterol 108 (90 Base) MCG/ACT inhaler 2 puff
2 puff, Inhalation, Every 15 min PRN, Grade 3, 4, CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

EPINEPHrine (Adrenalin) injection 0.1 mg
0.1 mg, Intravenous, Every 15 min PRN, Grade 4 CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.1 MG Intravenous preferred if platelet count is unknown or less than 50,000. May repeat in 15 minutes if lack of clinical response
Administer slow IV Bolus over 5 minutes

EPINEPHrine (Adrenalin) injection 0.3 mg
0.3 mg, Intramuscular, Every 15 min PRN, Grade 4 CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.3 MG Intramuscular PREFERRED if platelet count greater than 50,000 or if no IV access is established. May repeat in 15 minutes if lack of clinical response
Administer in the anterolateral aspect of the middle third of the thigh. Do not administer repeat injections at the same site.

Nursing oxygen orders / instructions
Once Starting when released
Maintain saturation GREATER THAN 90% and patient comfort

Suction airway
As needed Starting when released Until Specified
For secretions

Day 22, Cycle 1 - Outpatient - Day Length: 1, Cycle Length: 42

Appointment Requests

Clinic Appointment Request
Status: Future, Expected: S, Expires: S+365, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

Infusion Appointment Request-4 hours (Single-Select)

Infusion Appointment Request
Status: Future, Expected: S, Expires: S+366, Sched. Duration: 240 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after
PMC Infusion Appointment Request

Status: Future, Expected: S, Expires: S+366, Sched. Duration: 240 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

Selection conditions: Checks if plan is from research PRL

Labs

CBC and differential

Comprehensive metabolic panel

Magnesium

Treatment Parameters

Treatment Parameters
Okay to give chemotherapy only if the following parameters are met:
- Platelets GREATER THAN OR EQUAL to 100,000/uL
- ANC GREATER THAN OR EQUAL to 1,000/uL
- Creatinine Clearance GREATER THAN or EQUAL TO 45 mL/minute
- AST/ALT LESS THAN OR EQUAL TO 3 x ULN; Total Bilirubin LESS THAN OR EQUAL TO 1.5 x ULN
- Do not administer to patients with colitis or pneumonitis

Communication Orders

Communication Orders
- Patient should not receive NSAIDS two days prior, the day of, and for two days after Pemetrexed
- Pemetrexed should not be administered in the presence of ascites and/or pleural effusion

Confirm that the patient has taken the following:
- Folic acid 1 mg PO daily starting 7 days prior to first dose of Pemetrexed (to continue until 21 days after last Pemetrexed dose)
- Cyanocobalamin (Vitamin B12) 1 mg IM every 3 cycles beginning 1 to 2 weeks prior to first dose of Pemetrexed
- Dexamethasone 4 mg PO twice daily the day prior to receiving Pemetrexed (can continue treatment if not).

Line Care Communication (Single-Select)

- Communication Orders
  Nurse to place line care therapy plan to provide appropriate line care for patient's line (peripheral line or central line therapy plan).

Nursing communication
Monitor vital signs prior to infusion, then every 15 minutes until 1 hour after infusion on 1st dose. All patients with history of infusion reactions to this immunotherapy should be monitored every 15 minutes until 1 hour after the end of each infusion.

Pre-Medications

- Aprepitant (Cinvanti) IV 130 mg
  130 mg, Intravenous, Administer over: 2 Minutes, Once, Starting at treatment start time
  Administer 30 minutes prior to treatment.

- Oncabotrol OD (Zofran-ODT) disintegrating tablet 16 mg
  16 mg, Oral, Once, Starting at treatment start time
  Administer 30 minutes prior to treatment.

Communication Orders
Confirm the patient has started dexamethasone 4 mg PO BID 1 day prior to PEMetrexed.

- Dexamethasone (Decadron) injection 8 mg
  8 mg, Intravenous, Once, Starting at treatment start time
  If patient did not take oral dexamethasone at home the previous day

Chemotherapy

- Nivolumab (Opdivo) IV 360 mg
  360 mg, Intravenous, Administer over: 30 Minutes, Once, Starting at treatment start time
  NS 100 mL

PEMExtrxed (Alimta) IV 500 mg/m2 (Treatment Plan)
Weight: Treatment plan weight
500 mg/m², Intravenous, Administer over: 10 Minutes, Once, Starting 30 minutes after treatment start time
In 100 mL NS

**CARBOplatin (Paraplatin) IVPB**
Intravenous, Administer over: 30 Minutes, Once, Starting 40 minutes after treatment start time
250mL NS

**PRN Medications**

<table>
<thead>
<tr>
<th>medication</th>
<th>strength/dose</th>
<th>route</th>
<th>frequency</th>
<th>indication</th>
<th>duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>prochlorperazine (Compazine)</td>
<td>10 mg</td>
<td>tablet</td>
<td>every 6 hours</td>
<td>PRN, nausea, vomiting, starting when released</td>
<td>until discontinued</td>
</tr>
<tr>
<td></td>
<td>10 mg</td>
<td>injection</td>
<td>every 6 hours</td>
<td>PRN, nausea, vomiting, starting when released</td>
<td>until discontinued</td>
</tr>
</tbody>
</table>

**Hypersensitivity Medications**

**Hypersensitivity Protocol Add-on**
For CARBOplatin reactions GREATER THAN or EQUAL to Grade 2, hold infusion and notify MD for instructions regarding rechallenging versus discontinuing CARBOplatin. All other hypersensitivity management to occur per hypersensitivity protocol instructions below.

**Hypersensitivity Protocol**

**CHEMOTHERAPY HYPERSENSITIVITY PROTOCOL**
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):

**GRADE 1: Mild Symptoms:** Mild flushing, rash, pruritus; chills
- No pharmacologic treatment indicated
- Consider decreasing the rate of infusion until recovery of symptoms
- Complete infusion at initial planned rate and observe patient closely during remainder of infusion

**GRADE 2: Moderate Symptoms:** Moderate flushing, rash; mild dyspnea; chest discomfort; pain in abdomen/pelvis/back
- Stop chemotherapy
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT
- After recovery, resume infusion at 10 mL/hour for 15 minutes, then 25 mL/hour for 15 minutes, then, if no further symptoms, at full dose rate until infusion is complete. Observe patient closely during remainder of infusion.
- If moderate or severe symptoms recur after re-challenge, stop chemotherapy infusion and notify MD

**GRADE 3/4: Severe/ life-threatening Symptoms:** Hypotension requiring vasopressors; angioedema; respiratory distress requiring bronchodilators; generalized urticaria; anaphylaxis
- Stop chemotherapy and notify MD
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT and famotidine 20mg IV STAT
- For anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV. Call Rapid Response STAT.
- Add albuterol HFA 90mcg inhaler 2 puffs STAT for respiratory distress

**Hypersensitivity Protocol**

**IMMUNOTHERAPY HYPERSENSITIVITY PROTOCOL**
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):

**GRADE 1:** Mild pruritus, flushing, or rash
- Increase monitoring of vital signs until completion of infusion

**GRADE 2:** Generalized pruritus, flushing or rash; dyspnea, hypotension with SBP >80
- Stop infusion and notify MD
- Administer diphenhydramine 50mg IV
- If symptoms resolve within 1 hour of stopping infusion, restart infusion at 50% infusion rate at which symptoms occurred. Observe patient closely during the remainder of infusion. If symptoms recur after re-challenge, stop infusion and notify MD.

**GRADE 3/4:** Bronchospasm, generalized urticaria, SBP <80 or angioedema; anaphylaxis
- Immediately discontinue infusion and disconnect infusion tubing from the patient and notify MD
- Administer diphenhydramine 50mg IV, methylprednisolone 80mg IV PRN, and famotidine 20mg IV PRN.
- If anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV.
- Escalate to emergency response team STAT.

**diphenhydramINE (BENADRYL) injection 25 mg**
25 mg, Intravenous, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
diphenhydramine (Benadryl) injection 25 mg
25 mg, Intramuscular, Once as needed, Grade 2, 3, 4, Chemotherapy infusion reaction, Starting when released, Until Discontinued
Give Intramuscular for hypersensitivity reaction if no IV access

famotidine (Pepcid) injection 20 mg
20 mg, Intravenous, Once as needed, Grade 2, 3, 4, Chemotherapy infusion reaction, Starting when released, Until Discontinued

methyLPrednisolone sod suc (PF) (Solu-Medrol) injection 40 mg
40 mg, Intramuscular, Once as needed, Grade 2, 3, 4, Chemotherapy infusion reaction, Starting when released, Until Discontinued
Give Intramuscular for hypersensitivity reaction if no IV access

albuterol 108 (90 Base) MCG/ACT Inhale 2 puff
2 puff, Inhalation, Every 15 min PRN, Grade 3, 4, Chemotherapy or Immunotherapy infusion reaction, Starting when released, Until Discontinued

Epinephrine (Adrenalin) injection 0.1 mg
0.1 mg, Intravenous, Every 15 min PRN, Grade 4 Chemotherapy or Immunotherapy infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.1 MG Intravenous preferred if platelet count is unknown or less than 50,000. May repeat in 15 minutes if lack of clinical response
Administer slow IV Bolus over 5 minutes

Epinephrine (Adrenalin) injection 0.3 mg
0.3 mg, Intramuscular, Every 15 min PRN, Grade 4 Chemotherapy or Immunotherapy infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.3 MG Intramuscular PREFERRED if platelet count greater than 50,000 or if no IV access is established. May repeat in 15 minutes if lack of clinical response
Administer in the anterolateral aspect of the middle third of the thigh. Do not administer repeat injections at the same site.

Nursing oxygen orders / instructions
Once Starting when released
Maintain saturation GREATER THAN 90% and patient comfort

Suction airway
As needed Starting when released
For secretions

Day 1, Cycles 2 to 6 - Outpatient - Day Length: 1, Cycle Length: 42

Appointment Requests

Clinic Appointment Request
Status: Future, Expected: 5, Expires: S+365, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

Infusion Appointment Request-3 hours (Single-Select)

Infusion Appointment Request
 PMC Infusion Appointment Request

Status: Future, Expected: S, Expires: S+366, Sched. Duration: 180 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

Selection conditions: Checks if plan is from research PRL

Labs

CBC and differential

Comprehensive metabolic panel

TSH reflex FT4

Treatment Parameters

Treatment Parameters
Okay to give chemotherapy only if the following parameters are met:
- Platelets GREATER THAN OR EQUAL to 75,000 k/μL
- ANC GREATER THAN OR EQUAL to 1,000 k/μL
- Serum Creatinine LESS THAN OR EQUAL TO 1.5 x upper limit of normal (ULN) or baseline
- AST/ALT LESS THAN OR EQUAL TO 2.5 x ULN; Total Bilirubin LESS THAN OR EQUAL TO 1.5 x ULN
- Do not administer to patients with colitis or pneumonitis

Communication Orders

Line Care Communication (Single-Select)

Communication Orders
Nurse to place line care therapy plan to provide appropriate line care for patient’s line (peripheral line or central line therapy plan).

Nursing communication
Monitor vital signs prior to infusion, then every 15 minutes until 1 hour after infusion on 1st dose. All patients with history of infusion reactions to this immunotherapy should be monitored every 15 minutes until 1 hour after the end of each infusion.

Chemotherapy

nivolumab (Opdivo) IV 360 mg
360 mg, Intravenous, Administer over: 30 Minutes, Once, Starting at treatment start time
NS 100 mL

ipiilimumab (Yervoy) IV 1 mg/kg (Treatment Plan)
Weight: Treatment plan weight
1 mg/kg, Intravenous, Administer over: 30 Minutes, Once, Starting 30 minutes after treatment start time
Dilute in NS (Final concentration 1-2mg/mL)

PRN Medications

prochlorperazine (Compazine) tablet 10 mg
10 mg, Oral, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use if able to take PO

prochlorperazine (Compazine) injection 10 mg
10 mg, Intravenous, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use IV if unable to take PO

Hypersensitivity Medications

Hypersensitivity Protocol
CHEMOTHERAPY HYPERSENSITIVITY PROTOCOL
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):
GRADE 1: Mild Symptoms: Mild flushing, rash, pruritus; chills
- No pharmacologic treatment indicated
- Consider decreasing the rate of infusion until recovery of symptoms
- Complete infusion at initial planned rate and observe patient closely during remainder of infusion
GRADE 2: Moderate Symptoms: Moderate flushing, rash; mild dyspnea; chest discomfort; pain in abdomen/pelvis/back
- Stop chemotherapy
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT
- After recovery, resume infusion at 10 mL/hour for 15 minutes, then 25 mL/hour for 15 minutes, then, if no further symptoms, at full dose rate until infusion is complete. Observe patient closely during remainder of infusion.
- If moderate or severe symptoms recur after re-challenge, stop chemotherapy infusion and notify MD

GRADE 3/4: Severe/life-threatening Symptoms: Hypotension requiring vasopressors; angioedema; respiratory distress requiring bronchodilators; generalized urticaria; anaphylaxis
- Stop chemotherapy and notify MD
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT and famotidine 20mg IV STAT
- For anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV. Call Rapid Response STAT.
- Add albuterol HFA 90mcg inhaler 2 puffs STAT for respiratory distress

Hypersensitivity Protocol

IMMUNOTHERAPY HYPERSENSITIVITY PROTOCOL

Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):

GRADE 1: Mild pruritus, flushing, or rash
- Increase monitoring of vital signs until completion of infusion

GRADE 2: Generalized pruritus, flushing or rash; dyspnea, hypotension with SBP>80)
- Stop infusion and notify MD
- Administer diphenhydramine 50mg IV
- If symptoms resolve within 1 hour of stopping infusion, restart infusion at 50% infusion rate at which symptoms occurred. Observe patient closely during the remainder of infusion. If symptoms recur after re-challenge, stop infusion and notify MD.
GRADE 3/4: Bronchospsm, generalized urticaria, SBP <80 or angioedema; anaphylaxis
- Immediately discontinue infusion and disconnect infusion tubing from the patient and notify MD
- Administer diphenhydramine 50mg IV, methylprednisolone 80mg IV PRN, and famotidine 20mg IV PRN.
- If anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV.
- Escalate to emergency response team STAT.

diphenhydRAMINE (BENADRYL) injection 25 mg
25 mg, Intravenous, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

diphenhydRAMINE (BENADRYL) injection 25 mg
25 mg, Intramuscular, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give IntraMuscular for hypersensitivity reaction if no IV access

diphenhydRAMINE (BENADRYL) injection 50 mg
50 mg, Intravenous, Once as needed, Grade 2, 3, 4, IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

diphenhydRAMINE (BENADRYL) injection 50 mg
50 mg, Intramuscular, Once as needed, Grade 2, 3, 4, IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give IntraMuscular for hypersensitivity reaction if no IV access

famotidine (Pepcid) injection 20 mg
20 mg, Intravenous, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

famotidine (Pepcid) injection 20 mg
20 mg, Intravenous, Once as needed, Grade 3, 4 IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 40 mg
40 mg, Intramuscular, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give IntraMuscular for hypersensitivity reaction if no IV access

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 40 mg
40 mg, Intravenous, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

methylPREDNISolone sod suc (PF) (SOLU-Medrol) injection 80 mg
80 mg, Intravenous, Once as needed, Grade 3, 4 IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
albuterol 108 (90 Base) MCG/ACT inhaler 2 puff
2 puff, Inhalation, Every 15 min PRN, Grade 3, 4, CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

EPINEPHrine (Adrenalin) injection 0.1 mg
0.1 mg, Intravenous, Every 15 min PRN, Grade 4 CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.1 MG Intravenous preferred if platelet count is unknown or less than 50,000. May repeat in 15 minutes if lack of clinical response
Administer slow IV Bolus over 5 minutes

EPINEPHrine (Adrenalin) injection 0.3 mg
0.3 mg, Intramuscular, Every 15 min PRN, Grade 4 CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued
Epinephrine 0.3 MG Intramuscular PREFERRED if platelet count greater than 50,000 or if no IV access is established. May repeat in 15 minutes if lack of clinical response
Administer in the anterolateral aspect of the middle third of the thigh. Do not administer repeat injections at the same site.

Nursing oxygen orders / instructions
Once Starting when released
Maintain saturation GREATER THAN 90% and patient comfort

Suction airway
As needed Starting when released Until Specified
For secretions

Day 22, Cycles 2 to 6 - Outpatient - Day Length: 1, Cycle Length: 42

Appointment Requests

Clinic Appointment Request
Status: Future, Expected: S, Expires: S+365, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

Infusion Appointment Request-3 hours (Single-Select)

Infusion Appointment Request
Status: Future, Expected: S, Expires: S+366, Sched. Duration: 180 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after

PMC infusion Appointment Request
Status: Future, Expected: S, Expires: S+366, Sched. Duration: 180 minutes, Sched. Tolerance: Schedule appointment at most 3 days before or at most 3 days after
Selection conditions: Checks if plan is from research PRL

Labs

CBC and differential

Comprehensive metabolic panel

Treatment Parameters

Treatment Parameters
Okay to give chemotherapy only if the following parameters are met:
- Platelets GREATER THAN OR EQUAL to 75,000 k/uL
- ANC GREATER THAN OR EQUAL to 1,000 k/uL
- Serum Creatinine LESS THAN OR EQUAL TO 1.5 x upper limit of normal (ULN) or baseline
- AST/ALT LESS THAN OR EQUAL TO 2.5 x ULN; Total Bilirubin LESS THAN OR EQUAL TO 1.5 x ULN
- Do not administer to patients with colitis or pneumonitis

Communication Orders

Line Care Communication (Single-Select)

Communication Orders
Nurse to place line care therapy plan to provide appropriate line care for patient's line (peripheral line or central line therapy plan).

Nursing communication
Monitor vital signs prior to infusion, then every 15 minutes until 1 hour after infusion on 1st dose. All patients with history of infusion reactions to this immunotherapy should be monitored every 15 minutes until 1 hour after the end of each
Chemotherapy

nivolumab (Opdivo) IV 360 mg
360 mg, Intravenous, Administer over: 30 Minutes, Once, Starting at treatment start time
NS 100 mL

PRN Medications

prochlorperazine (Compazine) tablet 10 mg
10 mg, Oral, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use if able to take PO

prochlorperazine (Compazine) injection 10 mg
10 mg, Intravenous, Every 6 hours PRN, nausea, vomiting, Starting when released, Until Discontinued
Use IV if unable to take PO

Hypersensitivity Medications

Hypersensitivity Protocol
CHEMOTHERAPY HYPERSENSITIVITY PROTOCOL
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):
GRADE 1: Mild Symptoms: Mild flushing, rash, pruritus; chills
- No pharmacologic treatment indicated
- Consider decreasing the rate of infusion until recovery of symptoms
- Complete infusion at initial planned rate and observe patient closely during remainder of infusion
GRADE 2: Moderate Symptoms: Moderate flushing, rash; mild dyspnea; chest discomfort; pain in abdomen/pelvis/back
- Stop chemotherapy
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT
- After recovery, resume infusion at 10 mL/hour for 15 minutes, then 25 mL/hour for 15 minutes, then, if no further symptoms, at full dose rate until infusion is complete. Observe patient closely during remainder of infusion.
- If moderate or severe symptoms recur after re-challenge, stop chemotherapy infusion and notify MD
GRADE 3/4: Severe/life-threatening Symptoms: Hypotension requiring vasopressors; angioedema; respiratory distress requiring bronchodilators; generalized urticaria; anaphylaxis
- Stop chemotherapy and notify MD
- Administer diphenhydramine 25mg IV STAT and methylprednisolone 40mg IV STAT and famotidine 20mg IV STAT
- For anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV. Call Rapid Response STAT.
- Add albuterol HFA 90mcg inhaler 2 puffs STAT for respiratory distress

Hypersensitivity Protocol
IMMUNOTHERAPY HYPERSENSITIVITY PROTOCOL
Unless otherwise specified within a specific order set or research protocol, infusion reaction management will consist of a response based on grade of infusion reaction (based on CTCAE v5.0 for allergic reaction):
GRADE 1: Mild pruritus, flushing, or rash
- Increase monitoring of vital signs until completion of infusion
GRADE 2: Generalized pruritus, flushing or rash; dyspnea, hypotension with SBP>80)
- Stop infusion and notify MD
- Administer diphenhydramine 50mg IV
- If symptoms resolve within 1 hour of stopping infusion, restart infusion at 50% infusion rate at which symptoms occurred. Observe patient closely during the remainder of infusion. If symptoms recur after re-challenge, stop infusion and notify MD.
GRADE 3/4: Bronchospasm, generalized urticaria, SBP <80 or angioedema; anaphylaxis
- Immediately discontinue infusion and disconnect infusion tubing from the patient and notify MD
- Administer diphenhydramine 50mg IV, methylprednisolone 80mg IV PRN, and famotidine 20mg IV PRN.
- If anaphylaxis, add epinephrine 0.3mg IM (PREFERRED if platelet count greater than 50,000) or epinephrine 0.1mg IV STAT. If platelet count unknown, administer IV.
- Escalate to emergency response team STAT.

diphenhydrAMINE (BENADRYL) injection 25 mg
25 mg, Intravenous, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued

diphenhydrAMINE (BENADRYL) injection 25 mg
25 mg, Intramuscular, Once as needed, Grade 2, 3, 4, CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give Intramuscular for hypersensitivity reaction if no IV access
<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Route</th>
<th>Frequency</th>
<th>Duration</th>
<th>Administration Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diphenhydramine (Benadryl)</td>
<td>50 mg</td>
<td>Intravenous</td>
<td>Once as needed, Grade 2, 3, 4</td>
<td>IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued</td>
<td></td>
</tr>
<tr>
<td>Famotidine (Pepcid)</td>
<td>20 mg</td>
<td>Intravenous</td>
<td>Once as needed, Grade 2, 3, 4</td>
<td>CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued</td>
<td></td>
</tr>
<tr>
<td>Methylprednisolone sod suq (PF)</td>
<td>40 mg</td>
<td>Intramuscular</td>
<td>Once as needed, Grade 2, 3, 4</td>
<td>CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued</td>
<td></td>
</tr>
<tr>
<td>Albuterol 108 (90 Base) MCG/ACT</td>
<td>2 puff</td>
<td>Inhalation</td>
<td>Every 15 min PRN, Grade 3, 4</td>
<td>CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued</td>
<td></td>
</tr>
<tr>
<td>Epinephrine (Adrenaline)</td>
<td>0.1 mg</td>
<td>Intravenous</td>
<td>Every 15 min PRN, Grade 4</td>
<td>CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued</td>
<td></td>
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<td>Nursing oxygen orders / instructions</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>As needed Starting when released Until Specified</td>
</tr>
</tbody>
</table>

Give Intramuscular for hypersensitivity reaction if no IV access.

Methylprednisolone sod suq (PF) (Solu-Medrol) injection 40 mg
40 mg, Intramuscular, Once as needed, Grade 2, 3, 4 CHEMOTHERAPY infusion reaction, Starting when released, Until Discontinued
Give Intramuscular for hypersensitivity reaction if no IV access.

Methylprednisolone sod suq (PF) (Solu-Medrol) injection 80 mg
80 mg, Intravenous, Once as needed, Grade 3, 4 IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

Methylprednisolone sod suq (PF) (Solu-Medrol) injection 40 mg
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Albuterol 108 (90 Base) MCG/ACT inhaler 2 puff
2 puff, Inhalation, Every 15 min PRN, Grade 3, 4, CHEMOTHERAPY OR IMMUNOTHERAPY infusion reaction, Starting when released, Until Discontinued

Epinephrine 0.1 MG Intravenous preferred if platelet count is unknown or less than 50,000. May repeat in 15 minutes if lack of clinical response.
Administer slow IV Bolus over 5 minutes

Epinephrine 0.3 MG Intramuscular PREFERRED if platelet count greater than 50,000 or if no IV access is established. May repeat in 15 minutes if lack of clinical response.
Administer in the anterolateral aspect of the middle third of the thigh. Do not administer repeat injections at the same site.