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Specialty Pharmacy & Infusion Solutions

GUIDELINES FOR OUTPATIENT INTRAVENOUS SIMPONI ARIA (GOLIMUMAB) THERAPY

Section: Nursing
Compliance: Infusion Pharmacy
ACHC Standards: N/A
URAC Standards: N/A
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Reviewed:
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I. BACKGROUND

Simponi Aria (golimumab) is a human IgG 1-kappa monoclonal antibody binding to soluble and transmembrane TNFα, inhibiting TNFα from binding to its receptor and blocking its inflammatory mediating activity. Elevated levels of TNFα found in synovium, blood, and joints are responsible for articular inflammation present in psoriatic arthritis, rheumatoid arthritis, and other chronic inflammatory diseases. The following outlines clinical guidelines for servicing patients in need of outpatient intravenous golimumab.

II. PATIENT ACCEPTANCE CRITERIA

A. All candidates for home care service must be evaluated by the clinician(s) and deemed appropriate to receive home care based upon the dispensing pharmacy's admission criteria.

B. The decision to administer a first dose in the home by a field nurse will be determined on a case-by-case basis and reviewed by nursing and pharmacy management. The following criteria will be evaluated:
   1. Prescriber preference
   2. Allergy profile
   3. Age ≥18 years
   4. Ability to secure contracted nursing for subsequent infusions
   5. Other relevant social and/or medical history

C. Physician orders for golimumab must include:
   1. Patient weight
   2. Patient height for pediatrics
   3. Drug and dose
      a. Dosing weight for adults
      b. BSA-based for pediatrics
   4. Route of administration
   5. Frequency of administration
   6. Emergency medications per protocol
   7. Orders for pre-medications, if applicable
   8. Line Care protocol
   9. Routine lab monitoring, if applicable

D. Baseline labs or tests prior to starting therapy
    1. Evaluate for active TB infection and test for latent TB infection
    2. HBV test

E. Dispensing pharmacy treatment protocol for anaphylaxis will be instituted unless a more comprehensive patient-specific orders are provided by physician. See policy NUR012 (Appendix A).

III. PHARMACOLOGY OVERVIEW

Refer to manufacturer's full Prescribing Information for most up to date information
**Subcutaneous dosing and administration will not be discussed in the scope of this guideline*

A. Dosage and Indications
    1. Rheumatoid Arthritis:
        a. 2mg/kg IV infusion over 30 minutes at weeks 0, 4, and every 8 weeks thereafter
    2. Psoriatic Arthritis:
        a. Adults: 2mg/kg IV infusion over 30 minutes at weeks 0, 4, and every 8 weeks thereafter
        b. Pediatrics (≥ 2 years of age): 80mg/m^2 IV infusion over 30 minutes at weeks 0, 4, and every 8 weeks thereafter
    3. Ankylosing Spondylitis: adults
        a. 2mg/kg IV infusion over 30 minutes at weeks 0, 4, and every 8 weeks thereafter
    4. Polyarticular Juvenile Idiopathic Arthritis: Patients 2 years of age and older
        a. 80mg/m^2 IV infusion over 30 minutes at weeks 0, 4, and every 8 weeks thereafter
    5. Doses are based on actual body weight. Extremes of body weight have not been studied in this patient population.

B. Contraindications: no contraindications currently exist for golimumab.

C. Warnings and Precautions
    1. Serious Infections
        a. Golimumab should not be initiated in patients with active infection.
        b. Golimumab may need to be discontinued if serious infections, sepsis, or opportunistic infections develop.
        c. Tuberculosis
            i. New onset or reactivation of latent TB infections have been reported with TNF blockers. Testing for latent infection and evaluating risk factors prior to golimumab initiation is important. Treatment for latent TB may help reduce risk of TB reactivation during TNF blocker treatment.
        d. Hepatitis B virus (HBV) reactivation
            i. HBV testing is required before initiation of golimumab due to reports of HBV reactivation with TNF blockers. HBV antigen positive patients should be evaluated by a physician specializing in HBV treatment before receiving golimumab, since there is not adequate data to show if antiviral treatment reduces the risk of HBV reactivation. Close monitoring for signs of active HBV infection should be done in these patients who receive TNF blockers and for several months after therapy. Golimumab should be discontinued and appropriate antiviral therapy started in patients who experience HBV reactivation.

    e. Invasive fungal infections – should be on differential if patients being treated with golimumab develop a serious systemic illness
2. Malignancies
    a. Pediatric patients
        i. Lymphomas and rare malignancies have been reported in patients < 18 years old receiving TNF blocker therapy. Mean occurrence was 30 months after the first dose, and most patients were receiving other immunosuppressants as well.
    b. Adult patients
        i. Weigh risks and benefits before initiating golimumab in patients with known malignancy other than successfully treated non-melanoma skin cancer. Various leukemias, lymphomas, and skin cancers have been reported with TNF blockers. Skin examination and general monitoring for signs of malignancy should be done in patients receiving golimumab.
3. Congestive Heart Failure
    a. Worsening and new onset congestive heart failure (CHF) has been reported with golimumab, with some cases being fatal. Golimumab has not been studied in CHF. Use of golimumab in patients with CHF should be done with caution and close monitoring. Golimumab should be discontinued if new or worsening CHF symptoms develop.
4. Demyelinating Disorders
    a. TNF blockers have been associated rarely with central nervous system demyelinating disorders, such as multiple sclerosis. They have also been associated rarely with peripheral demyelinating disorders, such as Guillain-Barre syndrome. Caution should be exercised using golimumab in patients with central or peripheral nervous system demyelinating disorders, and discontinuation of golimumab should be considered if patients develop these demyelinating disorders.
5. Autoimmunity
    a. TNF blockers may cause formation of antinuclear antibodies (ANA). Rarely, treatment may result in development of a lupus-like syndrome. If a patient develops symptoms that are suggestive of a lupus-like syndrome, treatment should be discontinued.
6. Use with Abatacept
    a. Concurrent use of TNF blockers with abatacept has shown increased proportion of serious infections than with TNF blockers alone in controlled trials, with no improved clinical benefit.
7. Use with Anakinra
    a. Concurrent use of TNF blockers and anakinra (an IL-1 antagonist) has shown an increased proportion of serious infections and neutropenia and no additional benefits than with TNF blockers alone.
8. Switching Between Biological Disease Modifying Antirheumatic Drugs (DMARDs)
    a. Caution when switching between biologic agents due to overlapping biological activity increasing the risk of infection.
9. Hematologic Cytopenias
    a. Pancytopenia, leukopenia, neutropenia, aplastic anemia, agranulocytosis, and thrombocytopenia have been reported with golimumab. Caution in patients with current or a history of significant cytopenias.
10. Vaccinations/Therapeutic Infectious Agents
    a. Live vaccines – should be avoided in patients treated with golimumab.
        i. Limited data available on response to live vaccines or secondary transmission of infection by live vaccines in patients receiving TNF blockers.

ii. Infants exposed to golimumab in utero are not recommended to receive live vaccines for 6 months following the mother's last golimumab infusion during pregnancy.
iii. Update immunizations appropriately according to current immunization guidelines for patients receiving immunosuppressive agents before initiation of treatment with golimumab.

b. Therapeutic Infectious Agents – not recommended to be given concurrently
i. Use of therapeutic infectious agents (live attenuated bacteria, i.e. BCG) can cause clinical infections and disseminated infections.

11. Hypersensitivity reactions
a. Serious hypersensitivity reactions, including anaphylaxis, have been reported following intravenous golimumab infusions. Some reactions occurred after the first administration of golimumab. If an anaphylactic or other serious allergic reaction occurs, golimumab should immediately be discontinued and appropriate therapy started.

D. Pharmacokinetics
1. Absorption: Cmax of 44.4+/- 11.3mcg/mL after 2mg/kg infusion
2. Distribution: Vd of 151 +/- 61 mL/kg in RA patients
3. Half-life of 14 days

E. Adverse Reactions
1. > 10%
a. Upper respiratory tract and other infections
b. Antibody development
2. 1% - 10%
a. Viral (influenza, herpes) and bacterial infections
b. Bronchitis
c. Hypertension
d. Infusion reaction (rash)
e. Pyrexia
f. Leukopenia
3. < 1%
a. Increased AST/ALT
b. Lower respiratory tract infections
c. Serious infections
d. Pyelonephritis
e. Decreased neutrophil count
f. Dizziness
g. Constipation
h. Paresthesia
i. Sinusitis
j. Abscess
k. Superficial fungal infections

F. Drug Interactions
1. Concurrent administration of live vaccines and therapeutic infectious agents due to limited data and increased risk of infection
2. Concurrent use of other biologic products due to increased risk of infection
3. CYP450 substrates due to effects of TNFα blockers on CYP450 enzyme levels

IV. ADMINISTRATIVE GUIDELINES

A. Administration- IV infusions should be given immediately after dilution. Use within 1 hour of preparation per current USP Immediate-Use Guidelines.

B. Must use an infusion set with an **in-line low protein binding filter of 0.22-micron or less pore size**

C. Dose adjustments: No dosage adjustments are listed in the package insert

D. Duration
   1. Duration of therapy should be dependent on patient response and adverse reaction
   2. No specific duration is noted in the package insert

E. Golimumab cannot be infused concomitantly in the same intravenous line with other agents due to the lack of biochemical compatibility studies.

V. NURSING PROCEDURE

A. Supplies including but not limited to:
   1. Alcohol Swabs
   2. Gloves
   3. Golimumab drug vials
   4. Bag of sodium chloride 0.9% or sodium chloride 0.45% for dilution (100mL).
   5. Dressing change kit
   6. IV Pole
   7. IV Start Kit
   8. Peripheral IV catheter (ex. 22 Gauge x1" and 24 Gauge x ¾" for patients needing peripheral access)
   9. Port access needle (ex. 22 Gauge x ¾ to 1" safe step for patients with a port)
   10. Tape
   11. Extension set 8"
   12. IV injection cap
   13. IV administration set (dial-a-flow or gravity) with in-line 0.22 micron or less filter
   14. Syringes (10mL) with needles (20 G x 1")
   15. Normal Saline (0.9%) Flushes
   16. Sharps container

B. How Supplied
   1. Intravenous infusion
      a. Golimumab vial
         i. Injection: 50mg/4mL (12.5mg/mL) as a colorless to light yellow solution

C. Storage and Handling
   1. Store in a refrigerator 36°F to 46°F (2°C to 8°C)
   2. Protect from light
   3. Do not shake
   4. Do not freeze
   5. Vials may be stored at room temperature up to 77°F (25°C) for a single period of 30 days in the original carton. Do not return to refrigerator once at room temperature. Discard after 30 days at room temperature

D. Compatibility
    1. Dilution with either 0.9% Sodium Chloride or 0.45% Sodium Chloride
    2. No compatibility studies with other intravenous agents currently exist

E. Procedures: Preparation of product, Infusion rates, post infusion monitoring time.
    1. Explain the reasoning for visit and use of golimumab.
    2. Don gloves.
    3. Establish venous access prior to preparation of drug.
    4. Counsel patient on warnings, precautions, and potential side effects including but not limited to:
        a. Increased risk of serious infections
        b. Increased risk of malignancy
    5. Prepare Product
        a. From a 100mL 0.9% Sodium Chloride or 0.45% Sodium Chloride infusion bag, withdraw volume equal to the volume of golimumab solution required for patient's dose
        b. Inspect golimumab vials to ensure solution is colorless to light yellow with no opaque or foreign particles. Fine translucent particles are expected.
        c. Draw up patient's dose of golimumab and slowly add into IV bag. Gently mix. Do not shake.
        d. Visually inspect the final preparation to ensure colorless to light yellow with no opaque or foreign particles.
        e. Discard unused drug portion
    6. Infusion Rates
        a. Administer diluted infusion over 30 minutes.
        b. Monitor the patient for 30 minutes post infusion per INS guidelines for signs of hypersensitivity reaction and obtain vital signs at the end of this time frame.

VI. CLINICAL MONITORING

A. Prior to therapy
    1. Test for latent and active TB
    2. HBV testing
    3. Active malignancy

B. During therapy
    1. Signs and symptoms of infection
    2. Signs of active HBV or TB infection
    3. TB test for latent infection
    4. Signs and symptoms of new or worsening heart failure, demyelinating disorders, hypersensitivity reactions, malignancy (splenomegaly, hepatomegaly)
    5. CBC with differential
    6. Skin exams

Please refer to the package insert for the most up to date guidance on this medication

REFERENCES:

1. Simponi Aria (golimumab) package insert. Horsham, PA: Janssen Biotech; 2021 Feb.
2. Acheson EE, Acton J, Afolabi T, et al. "Golimumab: Drug Information." UpToDate. Accessed Sept 30, 2022. https://www.uptodate.com/contents/golimumab-drug-information?search=golimumab.
3. Golimumab. Quick Answers. IBM Micromedex [database online]. Truven Health Analytics/IBM Watson Health; 2022. Accessed Sept 30, 2022. https://www.micromedexsolutions.com

APPENDIX A: ANAPHYLAXIS KIT INTRUCTIONS

Emergency Medication After Your Infusion

Please call your pharmacy if you have any questions or concerns. In the event of an emergency, always call 911.

Your nurse will tell you when you need to use Emergency Medications.
The epinephrine dose will be noted on the Anaphylaxis Protocol included with your kit.

Start with a clean work surface and clean hands.

Open the supply bag labeled Anaphylaxis Kit Contents.

You will need:

1. Bag containing Pills (2 Acetaminophen and 2 Diphenhydramine)
2. Bag containing Alcohol Prep Pads
3. Bag labeled IM Epinephrine

All other contents will not be needed.

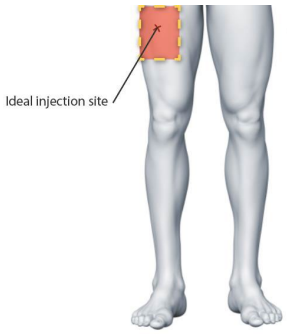
Open the IM Epinephrine Bag

1. Remove 1 of each item
    a. 1 -syringe
    b. 1 – brown labeled filter needle (BD Filter Needle)- **for ampule use only**
    c. 1 – black labeled safety needle (Magellan Hypodermic Safety Needle 22G x 1")
    d. 1 ampule of epinephrine

Prepare IM (intramuscular) injection of Epinephrine:

1. Attach the brown filtered needle to syringe
    a. Be careful to not touch the tip of the syringe or the needle.
2. Using an alcohol swab, wipe the neck of the epinephrine ampule.
3. Holding the ampule upright, swirl and flick the ampule until all fluid flows to the bottom chamber (the top chamber should be empty).
4. Using a new alcohol wipe, grasp the neck of the ampule and with your other hand grasp the bottom chamber of the ampule. Quickly snap the top of the ampule off, directing the snap way from you.
5. Place the tip of the brown filter needle inside the ampule. Tilting the ampule, withdraw dose of medication into the syringe by gently pulling back on the plunger. Be careful to not pull the plunger out of the syringe.
6. Remove the needle from the ampule and hold the syringe upright with the needle pointing upward. Gently tap the side of the syringe to bring any air to the top of the syringe.
7. Push the air out of the syringe by gently pushing on the plunger.
8. Replace the cap on the brown filter needle. Discard remainder in ampule.
9. Remove the brown filter needle and place the black safety needle onto the syringe.

Give your IM Epinephrine injection



1. Grasp your leg muscle at the outer mid-thigh and cleanse the area with a new alcohol wipe.
2. Push the needle into your leg muscle straight in at a 90-degree angle.
3. Inject the medication by depressing the plunger in a slow and steady motion.
4. Remove the needle and wipe the site with the alcohol wipe.
5. May repeat dose every 5 minutes (maximum 3 doses) if ordered per protocol.

Take the pills by mouth.

a. 2 – Acetaminophen
b. 2 – Diphenhydramine

Place all trash in the bag the pills came in and take with you when you seek medical care. Give the bag to the nurse or EMT, so your doctor will know what medication you already took. They will properly dispose of the syringe and needles.
Call 911 or have someone drive you to the emergency department.