Alberta Health Services

This document applies to all Covenant and AHS sites.

Hemlibra®

Class: *Monoclonal antibody.*

OTHER NAMES:
emicizumab

	INTRAVENOUS			OTHER		
ROUTES	**DIRECT IV**	**Intermittent Infusion**	**Continuous Infusion**	**SC**	**IM**	**OTHER**
Acceptable Routes*	No	No	No	Yes	No	N/A

*** Professionals performing these restricted activities have received authorization from their regulatory college and have the knowledge and skill to perform the skill competently.**

DESCRIPTION OF PRODUCT:

- Hemlibra® is a bispecific monoclonal antibody which bridges activated factors IX and factor X to restore the natural function of activated factor VIII
- Sterile, preservative-free, colourless to slightly yellow solution.
- Available in single dose vials: 1 mL vial at a concentration of 30 mg/mL and 0.4, 0.7, and 1.0 mL vials at a concentration of 150 mg/mL.
- Also contains L-arginine, L-histidine, and poloxamer 188, and L-aspartic acid.
- Produced in Chinese hamster ovary cells.

AVAILABILITY:

- Patient-specific requests must be submitted by a physician associated with a hemophilia treatment centre.
- Hemlibra is not routinely stocked in Alberta hospitals. Consult your local transfusion service regarding availability.
- Supplied by Canadian Blood Services

INDICATIONS FOR USE:

- Indicated in adults and children with hemophilia A (congenital factor VIII deficiency) for routine prophylaxis to prevent or reduce the frequency of bleeding episodes.
- Patients will be considered for approval for Hemlibra if:
  - The patient has congenital hemophilia A (congenital factor VIII deficiency)
  - The patient has Factor VIII inhibitors (>0.6 BU/mL) confirmed on more than one occasion by an appropriate assay

CONTRAINDICATIONS / CAUTIONS:

Contraindications

- Patients who are hypersensitive (allergic) to this drug or any ingredient in the formulation or container (see product monograph for complete listing).
- Note: Hemlibra® is not indicated for acute bleeds. Consult with a hemophilia physician if rFVIIa or FVIII treatment is required for acute bleeding in a patient on Hemlibra®

Cautions

- There is an increased risk of thrombotic events and/or thrombotic microangiopathy when used in conjunction with more than 100U/kg/24h of activated prothrombin complex concentrate (aPCC, eg. FEIBA). Use of aPCC during Hemlibra® treatment should be avoided due to the long half-life of the product.
- If no other effective treatment options/alternatives are available, initial dose of aPCC should not exceed 50U/kg, and 24 hour dose should not exceed 100 U/kg
- Nonclinical investigations have shown a procoagulant effect of emicizumab on rFVIIa; therefore, a potential risk of thromboembolism cannot be excluded.
- Bypassing agent dosing may be affected by Hemlibra treatment.
- Hemlibra affected intrinsic pathway clotting-based laboratory tests, including the activated clotting time (ACT), activated partial thromboplastin time (aPTT) and all assays based on aPTT such as one-stage factor VIII activity.

DOSE:

- Consult with a hematologist or local hemophilia clinic
- Bypassing agents should be discontinued at least 24h prior to starting Hemlibra prophylaxis
- Prophylactic factor VIII products may be continued during the first week of Hemlibra prophylaxis
- Recommended loading dose is 3 mg/kg, once weekly for the first 4 weeks.
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Recommended maintenance dose	
Patients < 12 years of age or < 40kg: ○ 1.5 mg/kg once every week, or ○ 3 mg/kg once every two week	Patients ≥ 12 years of age and ≥40kg: ○ 1.5 mg/kg once every week, or ○ 3 mg/kg once every two weeks, or ○ 6mg/kg once every four weeks

- If a dose is missed, administer the missed dose as soon as possible and then resume usual dosing schedule. Do not administer two doses on the same day to make up for a missed dose.

ADMINISTRATION:

Ensure patient consent has been obtained prior to requesting blood product from lab/transfusion service where possible.

Pre-Infusion: Ensure recent patient weight is on file and pertinent labs are available. Perform the appropriate pre-transfusion checks per nursing protocol.

Access: For subcutaneous use only. The injection should be restricted to the recommended injection sites: the abdomen, upper outer arms, and thighs. Self-injection in the outer arms is not recommended.

Administration Supplies (not included in packaging):

- Syringe of appropriate size
- 18 G Transfer needle or 15 mm vial adapter
- 25-27 G injection needle
- Alcohol wipes
- Gauze or cotton ball

Administration

- Bring Hemlibra® vials to room temperature. **Do not** shake vials.
- Solution does not require dilution.
- Solution should be clear and colourless to slightly yellow. Do not use if particulate matter is visible or the product is discoloured. Contact your hematologist or local hemophilia clinic with concerns prior to discarding questionable vials.
- Using a transfer needle or vial adapter, draw into a transfer syringe.
- Multiple vials of the same concentration may be drawn into a single syringe. Use a new transfer needle or vial adapter for each vial.
- Use immediately after transferring from the vial to the syringe.
- Vials are single-use only. Any product remaining in the vial should be discarded.

Additional Notes

- Ensure Hemlibra® is not injected into a blood vessel or muscle ("pinch an inch" to inject into fatty subcutaneous tissue). Avoid bony prominences.
- Rotate site with each administration.
- In hospital/facility storage of Hemlibra® must be in a Transfusion Service approved location. Product stored by the patient for home use must be in compliance with the manufacturer's recommendations.
- Discard any unused portion immediately after it has been accessed

Compatible Solutions:

- **N/A.** Do not mix Hemlibra® with other products

Infusion Rate –

- Rate is specified by the most responsible health practitioner (MHRP)

POTENTIAL HAZARDS WITH PARENTERAL ADMINISTRATION:

Adverse Events

- Potential adverse events related to a blood product transfusion range in severity, from minor with no sequelae, to life-threatening.
- All adverse events occurring during a transfusion must be evaluated to determine whether or not the transfusion can be safely continued/restarted. Acute reactions need medical involvement
- All adverse events suspected to be related to a product transfusion (whether during or after a transfusion) must be reported to your local transfusion service.
- The most common adverse reactions include local injection-site reactions (erythema, pain, pruritus), arthralgia, headache, pyrexia, diarrhea, and myalgia
- The most serious adverse reactions reported in clinical trials include thrombotic events and thrombotic microangiopathy, including cavernous sinus thrombosis and superficial vein thrombosis contemporaneous with skin necrosis

Drug Interactions

- When taken concomitantly with > 100 U/kg/24 h of aPCC, there is increased risk of thrombotic microangiopathy (TMA) and thromboembolism
- Hemlibra increases the patient's coagulation potential. If bypassing agents (eg. aPCC, rFVIIa) are required, the dose may need to be lowered

Laboratory Test Interference

- Hemlibra® interferes with intrinsic pathway coagulation tests based on activated clotting time (ACT) and activated partial thromboplastin time (aPTT).
- Effects on coagulation assays may persist for up to 6 months after the last dose

NURSING IMPLICATIONS:

Patient Monitoring:

- Vital Signs: Pre-administration and at least 20 min. post-dose for any adverse effects.
- Patients also taking aPCC or at higher risk of thrombotic microangiopathy (TMA) should be closely monitored

Patients receiving blood product transfusions must be observed closely for signs of any unexpected or untoward reactions. These reactions may occur during or after the infusion of blood or blood products. For follow up instructions to a transfusion reaction, click http://www.albertahealthservices.ca/4240.asp

Documentation:

- The transfusion documentation should be double signed (where required) to indicate infusion
- Start and stop time of infusion and assessment of patient tolerability should also be documented in appropriate flow chart or clinical record (electronic or paper) as required
- Document vital signs as required in the appropriate flow chart or clinical record (electronic or paper)..
- Provide patient notification of transfusion documentation where required
- Documentation for home use of Hemlibra® must follow the policies of the clinical program

STORAGE & STABILITY of PRODUCT:

- Store at 2 – 8^{O}C in the original carton to protect from light. Do not freeze
- May be stored at room temperature, not to exceed 30^{O}C for a maximum of 7 days (cumulative time out of refrigerated storage)

COMMENTS:

Date Effective: 5 Sept 2019
Version 1.0
Approved By: APL Transfusion Medicine Discipline Council
Document Number: PTMGNR00063
For questions or comments, please contact Transfusion.SafetyTeam@albertahealthservices.ca

REFERENCES:

Hemlibra Product Monograph - available from www.rochecanada.com
CBS Clinical Guide to Transfusion
CSA and CSTM Standards