PURPOSE:

1. If a large clot is observed on cathetergram or previous local instillations of alteplase have not cleared the catheter, a systemic infusion of alteplase may be ordered by the nephrologist. The dose is 3 mg alteplase in 50 mL 0.9% NaCl into both lumens over 3 hours (17 mL/hr). Thus, two infusions of 3 mg alteplase in 50 mL 0.9% NaCl will be required. The total dose infused will be 6 mg so the risk of bleeding is minimal.

POLICY:

1. Registered Nurses and Licensed Practical Nurses Dialysis may infuse IV alteplase upon obtaining a physician’s order that is separate to the preprinted *Chronic Hemodialysis Physician’s Order Sheet*.

EQUIPMENT:

- 3 – 2 mg vials alteplase (2 mg)
- 4 – 10 mL syringes
- Sterile water for injection (without bacteriostat)
- 2 – 50 mL mini bags 0.9% NaCl
- 2 medication infusion pumps
- Alcohol swabs
- Clean disposable gloves
- Equipment to access catheter lumens as per procedure 30.30.02

PROCEDURE:

1. Withdraw 2.2 mL of sterile water for injection and inject into a 2 mg alteplase vial.

   - Final concentration = 1 mg/mL (vial contains 2.2 mg alteplase).

2. Swirl vial until contents are completely dissolved. Do not shake.

   - Reconstituted solution should be colourless or pale yellow and transparent.

3. Repeat Steps 1 and 2 for the remaining 2 vials of alteplase.

4. Withdraw 3 mL (3 mg) of reconstituted solution from 2 alteplase vials (i.e. will use 1½ vials).

5. Inject 3 mg alteplase into a 50 mL mini bag of 0.9% NaCl.

   - Minimum concentration alteplase = 0.06mg/mL in 0.9% NaCl.
PROCEDURE:

6. Repeat Steps 4 and 5 for the second infusion bag.


8. Flush each lumen with 10 mL 0.9% NaCl.

9. Infuse both mini bags at the same time, one into each catheter lumen at 17 mL/hr (i.e. over approximately 3 hours) using the infusion pumps.

10. Flush both catheter lumens with 10 mL 0.9% NaCl to ensure patient receives full dose of alteplase.

11. Initiate dialysis or lock catheter per procedure 30.30.02 Accessing and Locking Dialysis Central Venous Catheter.

KEY POINTS:

- Monitor blood pressure, heart rate, and temperature prior to start of infusion then monitor blood pressure and heart rate every 30 minutes x 2.

- Monitor patient for signs of allergic reactions (i.e. pruritus, edema). There is a very low risk of hypersensitivity reactions (<0.02%).

- Monitor the patient for any signs of bleeding, particularly at any sites of recent trauma or venipuncture. Risk of bleeding is minor due to small dose of alteplase used (6 mg).

DOCUMENTATION:

- PRN Medication Administration Record
- Integrated Progress Notes
  - Time of administration
  - Blood flow rate prior to alteplase administration (if applicable)
  - Blood flow rate after alteplase administration

REFERENCES:


POLICY & PROCEDURE DEVELOPERS:

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