

**OLIVE VIEW-UCLA MEDICAL CENTER
DEPARTMENT OF NEPHROLOGY
POLICY & PROCEDURE**

NUMBER: 11744

VERSION: 1

SUBJECT/TITLE: DIALYSIS: ALTEPLASE: USE OF ALTEPLASE TO RESOLVE DIALYSIS CATHETER THROMBI

POLICY: The use of Alteplase instillation into hemodialysis catheters must be ordered by a nephrologist, nephrology fellow, or nephrology nurse practitioner

Alteplase is instilled into the catheter by a dialysis nurse (RN).

PURPOSE: To dissolve a suspected dialysis catheter thrombus

DEPARTMENTS: ALL

DEFINITIONS: Alteplase (Cathflo Activase [2 mg], Genentech, South San Francisco, CA) is a recombinant t-PA activator glycoprotein. It is a serine protease which binds to fibrin in a thrombus and converts its plasminogen to plasmin, thereby initiating fibrinolysis. Alteplase has been tested in clinical trials as an agent for lysis of 'clotted' central venous catheters. After instillation into the catheter, systemic levels do not reach pharmacological concentrations.

PROCEDURE:

Preparation

- Aseptically withdraw sterile water volume to match catheter port length for injection (typically this ranges from 1.6 – 2.6 mL)
- Inject the withdrawn water into the Cathflo Activase vial, directing the stream into the powder
- Mix gently until the powder is completely dissolved. Do not shake.
- Repeat above for a second dose (one dose for each port of double lumen dialysis catheter)

Administration

Short Dwell (45-60 min)

- Withdraw entire volume from reconstituted vial.
- Instill this dose into each of the two catheter ports
- After 60 min, test for lysis of clot by aspiration of blood

SUBJECT/TITLE: DIALYSIS: ALTEPLASE: USE OF ALTEPLASE TO RESOLVE DIALYSIS CATHETER THROMBI

Policy Number: 11744

Page Number: 2

- Aspirate 5 mL of blood to remove Alteplase
- Flush with 10 ml normal saline both ports
- Discard all unused Alteplase
- Perform dialysis

If the catheter remains nonfunctional after the first short dwell, decision may be made to repeat another short dwell or start a long dwell as described below. The order will be placed by the nephrologist, renal fellow, or renal nurse practitioner.

Long Dwell (24 hrs or interdialytic period)

- If only partial restoration (suboptimal blood flow rate) of the catheter is achieved with the short dwell, an additional long dwell with Alteplase can be performed.
- Alteplase is prepared as described above
- Reconstituted solution above is instilled into each catheter port.
- The instilled Alteplase is dwelled in the catheter until the next hemodialysis (24-72 hrs)
- Discard all unused Alteplase
- Prior to beginning the next hemodialysis, 5 mL of blood is withdrawn from each port to remove the Alteplase.
- Flush with 10 ml normal saline
- Perform dialysis

SUBJECT/TITLE: DIALYSIS: ALTEPLASE: USE OF ALTEPLASE TO RESOLVE DIALYSIS CATHETER THROMBI

Policy Number: 11744

Page Number: 3

References:

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- Salman L, Asif A, Allon M. Venous catheter infections and other complications. In: Handbook of Dialysis, eds Daugirdas, Blake, Ing, 5th Ed. Pp.166.

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