La Renon

SEROCIT

Trisodium Citrate 46.7% Catheter Locking Solution

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Indication -

- SEROCIT is indicated as a catheter locking solution to prevent coagulation of the blood in any type of intravenous catheter.
- SEROCIT is used to prevent clotting of blood and bacterial infections in catheter. It is also used to reduce biofilm formation in catheter.

Mechanism of action -

Trisodium Citrate (TSC) causes anticoagulation by chelation of ionized calcium in the extracorporeal circuit into a soluble complex. Because calcium is an integral ion involved in the clotting cascade, local removal by citrate prevents the activation of clotting cofactors, factor X, and prothrombin, and the ultimate formation of fibrin. However, systemic anticoagulation will not occur when the ionized calcium concentration will be restored. During metabolization of citrate into bicarbonate, calcium will be released. In this way the level of serum bicarbonate will be maintained.

Antimicrobial effect and a reduction of biofilm formation through binding and removal of Ca^{2+} in the surrounding milieu. Ca^{2+} regulates several genes responsible for growth and multiplying of microbes. Chelation of Mg^{2+} results in instability of the cell wall of microbes.

Administration -

- Aseptic technique must be maintained at all times.
- Prior to initiation of dialysis session, SEROCIT instilled in previous session should be discarded.
- Flush each catheter lumen with 5 ml of sterile 0.9% sodium chloride solution to remove any blood remaining from the previous operation.
- Extract the exact priming volume (prescribed by the catheter manufacturer) of SEROCIT from the vial, using a 5 ml or smaller syringe, to ensure accurate volume.
- Inject the priming volume of SEROCIT slowly into the catheter.

Clinical Advantages of SEROCIT - (compared with heparin)

- Reduction of clotting and tPA* use
- Better outcomes over catheter exchange
- Reduces biofilm
- Reduction of hospitalization
- Cost efficient

***tPA - Tissue Plasminogen Activator**

References:

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5. Meeus G et al, A prospective, randomized, double blind crossover study on the use of 5% Sodium citrate lock vs 10% citrate lock. Blood Purif 23, 101-105, 2005.

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