

Protocol to seal the peritoneal dialysis catheter with taurolidine to avoid recurring peritonitis: a method to prevent catheter removal

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Introduction:

One of the most frequent causes of withdrawing from the peritoneal dialysis (PD) program is recurring peritonitis after completing antibiotic treatment, caused by the same infectious agent. Currently, the only option possible is removal of the peritoneal dialysis catheter and inserting a new catheter, switching, in many cases, to temporary hemodialysis or permanent transfer. The mechanism responsible for the recurrence of the infection is the presence of an intraluminal biofilm that is adherent to the surface of the silicone catheter from which microbes can not be eradicated by antibiotics. To prevent the biofilm taurolidine can be administered to seal the hemodialysis catheters to avoiding bacterial growth on the biofilm.

Objectives:

Analyzing the efficiency and safety of the use of PD catheter sealed with TauroLock Hep500 in the case of recurring peritonitis in the PD unit during the last year.

Materials and Methods:

Retrospective study of 2 patients treated with a PD unit, who presented episodes of recurring peritonitis.

Case 1: Male patient, 56 years old, secondary renal failure due to nephro angio sclerosis. DPA. Recurring peritonitis due to 3 episodes of staphylococcus epidermidis. IV antibiotic treatment with vancomycin.

Case 2: Female patient, 18 years old. Secondary renal failure following tuberous sclerosis DPA. Recurring peritonitis due to 2 episodes of micrococcus luteus. IV antibiotic treatment with vancomycin.

Established Protocol:

- a) Standard IP antibiotic treatment: depending on microbiological isolation and sensitivity.
- b) Determining the seal volume: identifying the intraluminal volume of the peritoneal catheter based on the model through which the intraluminal volume is added through the transfer line.
- c) Administering TauroLock Hep500: the product is administered through rapid infusion with the help of a syringe with the exact volume of the peritoneal catheter, which will connect to the tip by creating a rapid seal with the occlusion system to ensure the vacuum and intraluminal permanency effect. It must remain in place a minimum of 12 hours. The peritoneal cavity must have a minimum volume of 1,500 ml.
- d) Duration, frequency and place of administration: daily, lasting 21 days after completion of the IV antibiotic treatment. This will be done by the trained nursing staff in the peritoneal dialysis unit.
- e) Removing TauroLock hep500: patient returns home after connected to the drainage bag and the removal of the peritoneal effluent.
- f) An administration and incident lot will be performed in each case.

Results:

In both cases when the protocol was followed, there were no relapses. In case 1, the patient was 143 days peritonitis-free after treatment and 93 days for case 2. No complications were recorded.