

ABSTRACT (EN)

Home parenteral nutrition (DPV) has become a routine part of patients care whose oral intake is reduced or completely eliminated. An integral part of the application of DPV is also the permanent or temporary need for functioning vascular access. Catheter complications negatively affect the quality of life, morbidity and in case of catheter sepsis the patient mortality. In addition it also brings increased costs for therapy and the need for patients re-hospitalization.

The main objective of our study is to analyze catheter-related complications and to determine whether use of catheter plugs like TauroLock and TauroLock Hep and Tegaderm CHG antimicrobial dressing affect the incidence of catheter complications with DPV, and whether the incidence of complications is affected by a person who treated the catheter. The secondary objective is to characterize patients with served DPV and types of catheter used for this purpose. The method chosen is a retrospective observational cohort study. The study contains 52 patients with 72 catheters (39 Broviac, 18 PICC and 15 ports). The monitored number of catheter-days in total was 33,875.

We conclude that the use TauroLock Hep is effective in the prevention of catheter complications and significantly reduces the overall incidence of all complications ($p = 0.024$) that can be affected by its application, i.e. catheter sepsis, local infections, thrombotic complications, and catheter occlusion. We also demonstrated a positive effect on the incidence of local infections ($p = 0.047$). Other analyzes did not produce convincing results. The effect of transparent dressing with chlorhexidine was not statistically demonstrated ($p = 0.709$) on the incidence of infectious complications. Similarly, the analysis of TauroLock Hep a Taurolock influence on infectious complications incidence reduction did not proof statistically significant effect as the statistical significance level was high for local infections ($p = 0.921$), catheter sepsis ($p = 0.091$).

In the case of person-influence who treating the catheter, we found a surprising result. There is a statistically significant difference in the incidence of mechanical and thrombotic complications. Specifically, we found a significantly higher incidence of occlusion in catheters treated with home care agency 0.61 compared to 0.09 (per 1000 catheter days) for treatments by close family or patient itself ($p = 0.048$). Vice versa all other mechanical complications (such as rupture, dislocation, etc.) have been recorded in catheters treated by close family or by patient itself which gives a statistically significant result in favor of home care agencies ($p = 0.009$). There was not found any statistically significant difference between the two catheter treatments for the other studied complications.

This makes our results different from Kralova (2016), which conducted her research in the same nutritional center in the previous period. She reported a higher incidence of all complications treated by home care agency as well as a significantly higher incidence of all complications in the entire study. These findings suggest that introducing certified courses for home care agencies, along with the use of Taurolock Hep, both reduce the overall incidence of catheter complications, and make the catheter treatment comparatively safe. However, further research would be needed to confirm this hypothesis.

keywords: home parenteral nutrition, PICC, intravenous port, Broviac catheter, complication, catheter