

## ABSTRACT

Home parenteral nutrition is a treatment enabling the patients with intestinal failure to live their lives in their home environment. The possibility to commence and practise home parenteral nutrition requires not only a medical and pharmaceutical team, but also paramedical staff, which plays a significant part mainly in education of the patient and his close relatives.

The study's aim was to characterize the patients involved in the home parenteral nutrition programme (HPN) and catheters used for this purpose and as well to analyze complication rate of the long term catheters related to their use and subsequent care.

Into the retrospective quantitative study were included patients treated with home parenteral nutrition since January 2009 to September 2015 within one nutrition care center. Data collection was realized by research in medical documentation.

Altogether 135 patients were included in the study (93 female and 42 male), who have had 227 catheters inserted in total (114 portcatheters, 73 Broviac catheters and 40 PICC) with 86 187 catheter days. The most frequent basic disease was cancer (36%) and the most prevalent indication to HPN was a short bowel syndrome (50%). Overall complication rate was 2,12/1000 catheter days (1,62 catheter sepsis, identically local infections and thrombotic complications 0,10 and 0,27 mechanical complications). The catheter sepsis rate added up to 1,81/1000 catheter days in the portcatheters, 1,44/1000 catheter days in the Broviac catheters and 1,39/1000 catheter days in the PICCs ( $p < 0,01$ ). The blood stream infection rate has decreased significantly through the observed time period from 1,9/1000 to 1,09 catheter days ( $p < 0,01$ ). The catheter sepsis rate was significantly higher in the catheters treated by home care agency in comparison to the catheters cared by the patient and his close relatives (2,44 vs. 1,00/1000 catheter days,  $p = 0,01$ ). 80 patients (59%) haven't had any infectious complication throughout the course of HPN.

The study's results suggest significant influence of preventive precautions in the catheter related blood stream infections rate reduction. Use of taurolidine as a catheter lock and well educated patient and his family participate substantially in the decrease of this complication in our research group. Based on our results an accreditation programme of HPN caregiving for home care agencies is being currently developed.

**Keywords:** *home parenteral nutrition, PICC, venous port, Broviac catheter, complications, catheter-related infection/sepsis*

