

This diploma thesis deals with complex quality assessment of catheterization programme run at Strahov Internal Medicine Department of the General Faculty Hospital in Prague. The evaluation was done according to K/DOQI 2006 international guidelines. The aim was to evaluate primary success of catheterization, probability of maintaining catheter functionality in time, the risk of its thrombotization and presence of infection. The evaluation was performed using Kaplan-Meier method. Moreover, the effect of additional enhancements for maintaining catheter functionality (TEGO Connector, Biopatch, heparin and Citra-Lock™) and the predictive value of selected hematologic parameters of long-term functionality of the catheters (hematocrit, plasma D-dimers) was assessed. The latter was performed on a small sample of patients. The possibility of detection of the catheter point position by measuring recirculation and its effect on dialysis was investigated by comparing X-ray control of the catheter point position to the value of recirculation measured on catheters connected either normally or inversely to the extracorporeal circulation device. Significance of the pressure values measured at input and output catheter lines was evaluated as a possible marker of the catheter functionality. Based on the analysis results, the appropriate method for the routine permanent catheter function evaluation was proposed.

This analysis shown that Strahov Internal Medicine Department of the General Faculty Hospital in Prague meets, in almost all points, the standards required for sophisticated catheterisation programme. The exception was the primary successfulness of the catheterization. The K/DOQI 2006 requirements for functional catheter was not meet by five-times more catheters than determined in the K/DOQI 2006 guidelines (blood flow 300 ml/min, arterial pressure -250 torr). There were not enough sample data for statistically significant analysis of some values, therefore only evaluation method was proposed.