Although arteriovenous (A-V) fistula is a preferred form of vascular access, for various reasons, permanent catheters are implanted in many patients” Szarnecka-Sojda et al (2019).

Abstract:

Background and Objectives: An increase in the incidence of end-stage renal disease (ESRD) is associated with the need for a wider use of vascular access. Although arteriovenous (A-V) fistula is a preferred form of vascular access, for various reasons, permanent catheters are implanted in many patients.

Materials and Methods: A retrospective analysis of clinical data was carried out in 398 patients (204 women) who in 2010-2016 were subjected to permanent dialysis catheters implantation as first vascular access or following A-V fistula dysfunction. The factors influencing the risk of complications related to vascular access and mortality were evaluated and the comparison of the group of patients with permanent catheter implantation after A-V fistula dysfunction with patients with first-time catheter implantation was carried out.

Results: The population of 398 people with ESRD with mean age of 68.73 ± 13.26 years had a total of 495 permanent catheters implanted. In 129 (32.6%) patients, catheters were implanted after dysfunction of a previously formed dialysis fistula. An upward trend was recorded in the number of permanent catheters implanted in relation to A-V fistulas. Ninety-two infectious complications (23.1%) occurred in the study population in 65 patients (16.3%).
Multivariate analysis showed that permanent catheters were more often used as the first vascular access option in elderly patients and cancer patients. Mortality in the mean 1.38 ± 1.17 years (min 0.0, max 6.70 years) follow-up period amounted to 50%. Older age and atherosclerosis were the main risk factors for mortality. Patients with dialysis fistula formed before the catheter implantation had a longer lifetime compared to the group in which the catheter was the first access.

Conclusion: The use of permanent catheters for dialysis therapy is associated with a relatively high incidence of complications and low long-term survival. The main factors determining long-term survival were age and atherosclerosis. Better prognosis was demonstrated in patients after the use of A-V fistula as the first vascular access option.

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