An-Najah National University

Faculty of Medicine and Health Sciences

Department of Human Medicine

Four-year Cumulative patency of fistula and PTFE grafts among hemodialysis patients: a retrospective, single-center study from Palestine

Students:

Obadah Khanfar 11541320

Ramadan Aydi 11541406

Mohammad Shehadeh 11541424

Supervisors:

Zakaria Hamdan

Sultaan Saadeh

Zaher Nazaal

ABSTRACT

Background: .
Due to the long waiting time for kidney transplantation the majority of End-Stage renal disease patients are commenced on either hemodialysis or peritoneal dialysis. Among all vascular accesses, reusable fistulas have the lowest risk for death, cardiovascular events, and infections. This study aims to report the outcomes of the arteriovenous fistulas and PTFE grafts and the related predictive clinical and demographic variables.

Methods
This retrospective study reviewed the charts of all hemodialysis patients between Jan 2017 and Jan 2021 at the Dialysis Center of An-Najah National University Hospital, Nablus, Palestine. Our outcomes were primary failure, primary and secondary patency and the related factors. Survival analysis using the Kaplan-Meier method was conducted, and the log-rank test was used to compare patency rates. Factors considered relevant to primary and secondary patency rates were tested in univariate and multivariate analyses using the Cox proportional hazards regression model.

Results
A total of 312 procedures were performed during the study period. Primary failure was 7.1% for AVF, 13.9% for AVG procedures. Peripheral arterial disease and left sided AVF were associated with more primary failure rates. AVF, primary patency rate at 1, 2, and 3 years were 82%, 69%, and 59%, respectively, while secondary patency rate at 1, 2, and 3 years were 85%,72% and 63%, respectively. Older age was significantly associated with a decreased primary and secondary patency. The use of combined, aspirin and Clopidogrel antiplatelet was significantly associated with an increased primary and secondary patency.

Conclusion:.
The use of antiplatelet agents, if not contraindicated, is encouraged to improve the AVF outcomes after taking into considerations the benefits of use versus risks of bleeding. . We also recommend more thorough periodical and preoperative tests for AVF to prevent complications and to allow for early intervention.

Routine pre-operative vascular mapping in the vascular department for patients planned to undergo new acess creation is also highly recommended.

Keywords:

End stage renal disease, Arterio-venous fistula, arterio-venous graft, primary patency, secondary patency, primary failure