

Institutional Complications of Arteriovenous Fistulas in Hemodialysis Patients: A Retrospective Review

Introduction: Arteriovenous fistulas (AVF) are a type of permanent vascular access available for hemodialysis. Although AVFs are preferred due to decreased long term vascular events, hemodialysis patients still present with complications including mechanical, infectious, and vascular. Studies analyzing the complication rates of AVF are limited. Therefore, the purpose of the study is to assess the frequency and characteristics of complications of AVFs present at Downstate Health Sciences University.

Methods: Charts of 107 hemodialysis patients who had AVF creations in 2017 were retrospectively reviewed. Patients were divided into complications and no complications groups. Complication rates and average time a patient returned for revision surgery following AVF creation were determined. Outcome variables studied were complications (mechanical, infectious, and vascular).

Results: Of the 107 patients who were studied thus far, 70 patients (65.4%) had at least one complication following AVF creation while 37 patients (34.6%) had no complications. Exclusion criteria included patients who were <18 years old and patients who had an AVF created before 2017. Complications of AVF included stenosis, thrombosis, infection, malfunctioning AVF, failure of maturation, and hematoma. A patient returned for a revision procedure following creation of AVF an average of 2.21 times.

Conclusion: Our results demonstrate high complication rates at our institution for patients who had an AVF created in 2017.

Complications with the greatest incidence included stenosis, malfunctioning AVF, and thrombosis. Institutional measures should be placed in order to reduce complication rates in hemodialysis patients with AVFs.