CONSEQUENCES FOR DIALYSIS PATIENTS SUFFERING VASCULAR ACCESS FAILURE

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Background

Arteriovenous fistula (AVF) access failure is common among hemodialysis patients. AVF failure requires immediate intervention to restore or maintain blood flow and maintain an uninterrupted hemodialysis schedule. Vascular access procedures are disruptive to both patients and dialysis centers and may have important implications for patient health outcomes and quality of life.

Methods

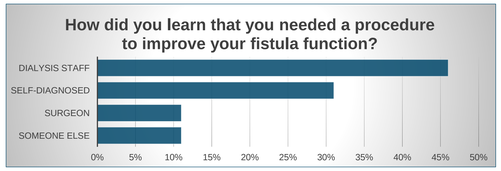
Utilizing the American Association of Kidney Patients (AAKP) electronic mailing list, an invitation to participate in an on-line survey was sent to patients with chronic kidney disease. After an initial three question screen to confirm the patient was receiving in-center or home hemodialysis through an AVF and had undergone a procedure to restore or maintain the function of the AVF, the first 60 patients were invited to complete the survey of 13 questions regarding their experience following an AVF failure.

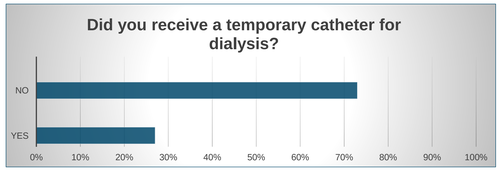
For the purposes of data analysis, patients were assumed to follow a typical thrice weekly dialysis schedule. Accordingly, the interdialytic gap period (the number of days between dialysis sessions) was calculated assuming that a reported missed or shortened dialysis session followed by a “next day” treatment equated to a minimum two day gap and that a “next regular dialysis session” equated to a minimum three day gap.

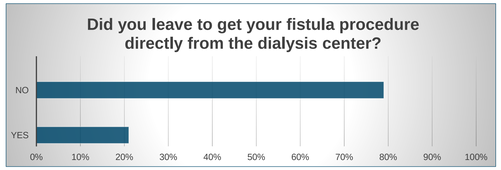
Screening Criteria

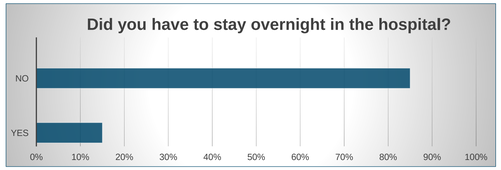
- Are you currently receiving hemodialysis (in-center or home)?
- Are you now, or have you in the past year, used an AV fistula to receive dialysis?
- Since you began receiving dialysis through your AV fistula, have you needed a procedure (for example an angioplasty or repeat surgery) to improve or restore the proper functioning of your fistula?

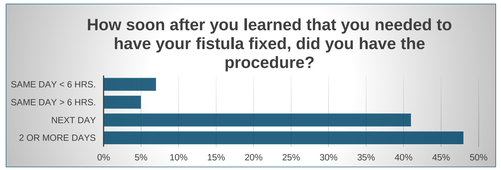
Survey Responses

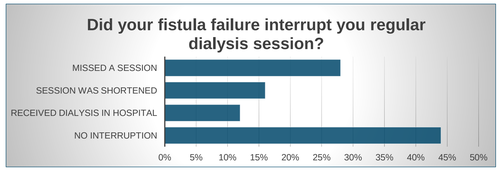


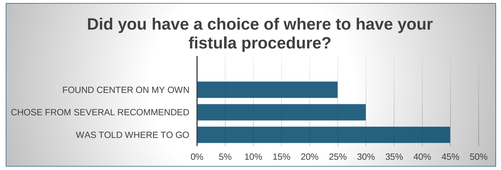


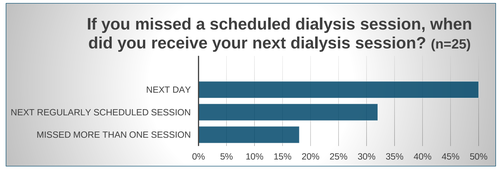


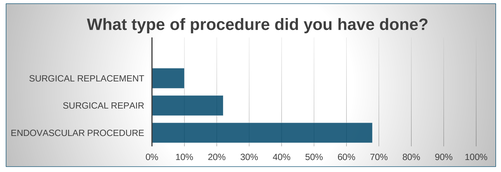


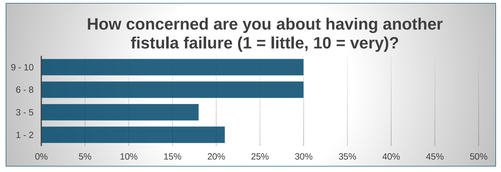












Graphs depict the percentage of respondents in each category (n=60), except where noted
Certain survey questions have been slightly modified to fit the allotted graph title space

Extended Interdialytic Frequency & Duration*

Of the 60 patients surveyed:

- **36% (n=22)** Reported an extended interdialytic gap as a result of an AVF failure
  - **18% (n=11)** Received dialysis the following day (extended interdialytic gap of at least 2 days)
  - **11% (n=7)** Received dialysis at their next regularly scheduled session (extended interdialytic gap of at least 3 days)
  - **7% (n=4)** Missed more than one dialysis session (extended interdialytic gap of at least 4 days)

* Findings derived from the question “If you missed a scheduled dialysis session, when did you receive your next dialysis session?”

Summary

- 48% of patients reported undergoing a corrective procedure at least two days after the detection of their AVF failure
- 27% of patients required the placement of a temporary catheter
- 15% required an overnight stay in the hospital
- 36% of patients in the survey reported that an AVF failure resulted in an extended interdialytic gap of 2 or more days
- 18% of patients reported AVF failures resulted in an extended interdialytic gap of 3 or more days
- Increased morbidity and mortality have previously been reported for the long 2 day interdialytic gap (Foley, NEJM, 2011). These reported delays in hemodialysis treatment associated with AVF failure may have important implications for patient morbidity, mortality and quality of life and are worthy of further investigations.

Study Limitations

- Survey participants may not be representative of the broader dialysis patient population
- The data are self-reported and therefore may not be fully accurate