



Hemodialysis Access for Patients with a History of IV Drug Use: A Case Series and Literature Review

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DISCLOSURE

Anna Ohlsson, MD

**No Relevant Financial
Relationship Reported**





HD in IVDU



- Providing dialysis access for patients with IVDU can be challenging
 - Late presentation (<90d pre-dialysis)
 - Limited options for superficial veins
 - Thrombosis or infection
 - Patient population has poor follow up
 - Ethical issues



Mathers et al. *Bull World Health Organ* 2013; 1;91(2)102-123.

Scott et al. *CKJ* 2018; 11 (2) 270-274.



Dialysis Access

- KDOQI guidelines and Fistula First Initiative:
 - Goal > 66% AVF in HD population
 - Fistula/AVG placement pre-dialysis
 - <10% CVC
- Reported dialysis access rates
 - 72% AVF
 - 7% AVG
 - 21% CVC

National Kidney Foundation. 2006 Updates Clinical Practice Guidelines and Recommendations.

AV Fistula First Breakthrough Coalition. National Vascular Access Improvement Initiative (NVAII).

Soleymanian et al. *J Vasc Access* 2017; 18;18 (1): 35-42.



Mortality



- Crude mortality rate per 100 patient years:
 - HD: 14-17
 - AVF: 11.7
 - AVG: 14.2
 - Catheter: 16.1
 - Medicaid/Medicare: 18.7
 - Private insurance: 8.4
 - IVDU: 2.3



Survival



- Median survival patients ~40 yrs
 - HD: >10 yrs
 - HD + IVDU: 8.6 months

Scott et al. *CKJ* 2018; 11 (2) 270-274.

Steenkamp et al. *Nephron* 2016; 132:111-144.



Objective



- Follow natural history of functional autogenous dialysis access in IVDU
 - Types of dialysis access
 - Access maintenance and longevity
 - Percentage of functional autogenous access/grafts
 - Prior attempted AVF access and why they failed
 - Mean number of catheter years
 - Mortality by access type



Methods



- Retrospective Review of prospectively collected data set
- Inclusion criteria
 - Hx or current IVDU
 - Current or future need for HD seeking access placement
 - 18>Age>80



Results



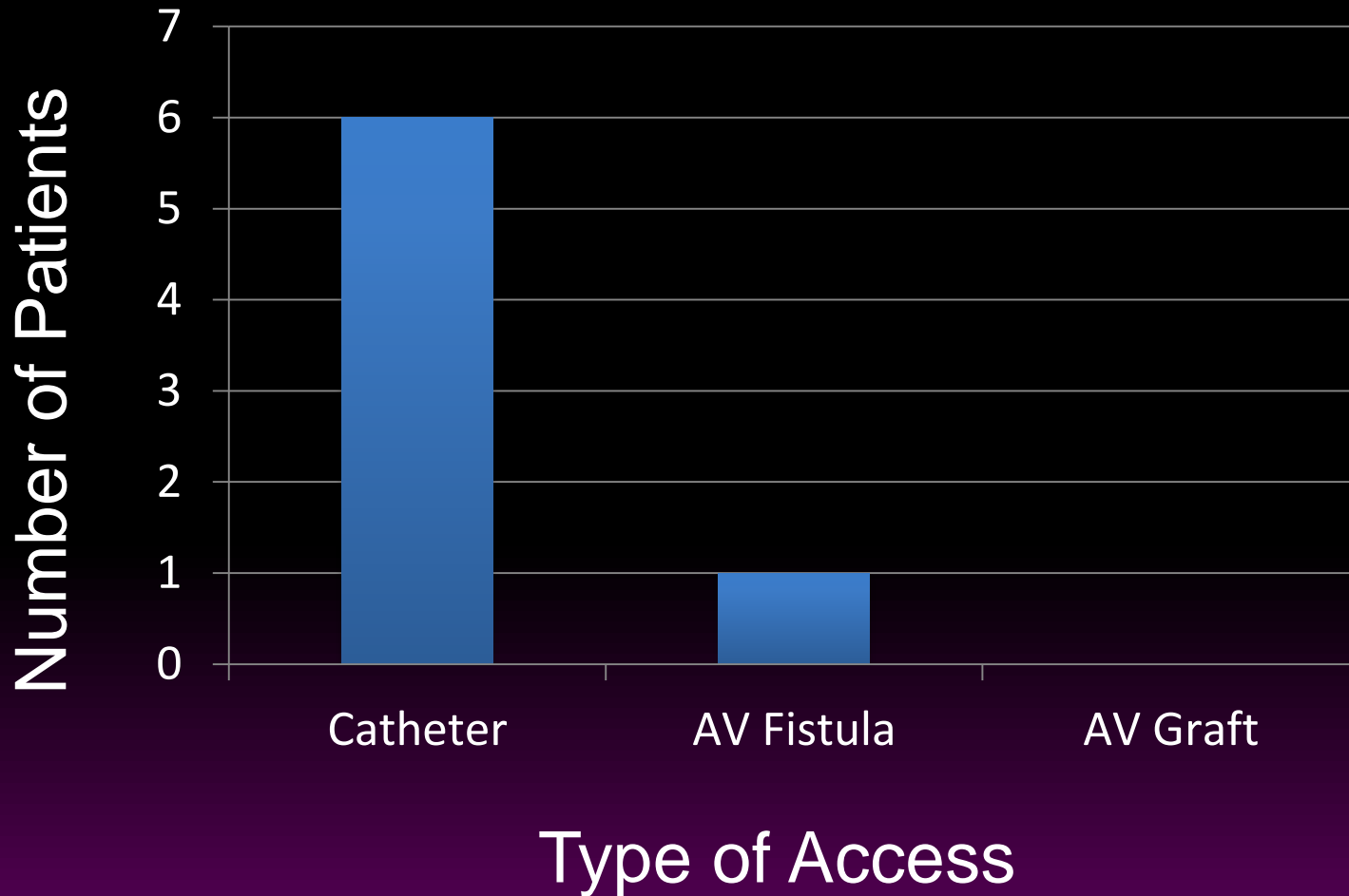
Table 1. Patient Characteristics

N (%)	7 (100)
Mean Age	48
Male	3 (47)
Alive	4 (57)
Medicare/Medicaid	7 (100)
Current Smoker (%)	6 (86)
Diabetes mellitus	1 (14)
Genetic hypercoagulability	0 (0)
Alpha amyloidosis	4 (57)
Average prior HD access attempts	1.85



Results

Figure 1. Current Functional Dialysis Access





Results



- **3** Patients with patent AV fistulas
 - 2 Brachiobasilic AVF
 - 1 Brachial-brachial AVF
- **1/3** Fistulas maturing: all deceased
- Functional fistulas ~ **9 months** old
 - Brachial-brachial and Brachiobasilic
 - Dialysis duration 5 months for both
 - Deceased: cardiac arrest and sudden death



Results



- **1** Patient with AVF infection after placement
 - 1 Brachiobasilic AVF
- **2** Patients required removal of infected thrombosed AVG
- No catheter associated infections



Conclusions



- Offers a glimpse of the current state of access for patients with IVDU
- Long term catheter based dialysis is the norm
- Functional fistula access is currently poor
- Fistula creation in IVDU is unlikely to be successful and baseline 1 year mortality is high



Continued Work



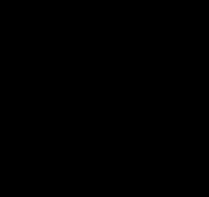
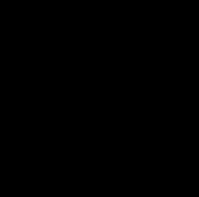
- Ongoing project: **1 year of data reviewed at 1 institution**
- Multiple sites to be gathered
- Paucity of literature



Thank you



- Questions?





References



1. Mathers et al. Mortality among people who inject drugs: a systemic review and meta-analysis. *Bull World Health Organ* 2013; 91(2):102-123. doi: 10.2371/BLT.12.108282.
2. Scott et al. Intravenous drug users who require dialysis: causes of renal failure and outcomes. *CKJ* 2018; 11 (2) 270-274. <https://doi.org/10.1093/ckj/sfx090>.
3. Astor et al. Type of Vascular Access and Survival among Incident Hemodialysis Patients: The Choices for Healthy Outcomes in Caring for ESRD (CHOICE) Study. *JASN* 2005, 16 (5) 1449-1455. DOI: <https://doi.org/10.1681/ASN.2004090748>
4. National Kidney Foundation. 2006. Updates Clinical Practice Guidelines and Recommendations.
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7. Soleymanian et al. Predictors of Clinical Outcomes in Hemodialysis Patients: A Multicenter Observational Study. *IJKD* 2017; 11: 229-236.
8. Steenkamp et al. UK Renal Registry 18th Annual Report: Chapter 5 Survival and causes of death in UK adult patients on renal replacement therapy in 2014: national and centre-specific analyses. *Nephron* 2016; 132:111-144.

