

Accuracy of Preoperative Vein Mapping compared to Intraoperative DUS for dialysis access creation

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Benefit of Preop DUS

Creation of AV fistula goal 68% recommended by KDOQI

Preop DUS evaluation increases odd 1.64

Accuracy of DUS increased when performed by a surgeon

Arterial evaluation also beneficial identifying calcification

Vasodilator effect of anesthesia recognized as an adjunct

Methods (1). General

- Limitation: single surgeon, single center, observational
- All operations were *initial* (some had previous interventions in different anatomic site)
- 54% had pre op DUS
- Anesthesia: general, monitored, (all multimodal)
- 3 mm vein considered minimal diameter
- Two-stage Basilic vein fistulas, vein transposed after a month

Methods (2). Patient Demographic

- Patient cohort 13 months (November 1, 2024-November 25, 2025)
- 106 patients
- Some patient received access prior to November 2024 (14 yr. duration)
- ***all observations derived from initial procedure***
- 59 males / 47 females
- Long-term durability and need for interventions assessed

Methods (3)

Selection Criteria

Diameter at least 3 mm

Enlarged diameter in upper arm

Potential for dilation following arterialization

Patient's age – younger patients favored, longer life-expectancy and need for subsequent procedures

Results 51-year-old, HTN, non-Diabetic, CKD Stage V on dialysis

Pre-op

Tourniquet Used
Y / N

LT	Vein	Size (cm)
1)	Cephalic V Junction	.36
2)	Axillary Vein	.80
3)	Basilic Vein Prox (Sup)	.44
4)	Basilic Vein Mid	.21
5)	Basilic Vein Distal	.22
6)	Ceph V Upper Arm Prox	.18
7)	Ceph V Upper Arm Mid	.12
8)	Ceph V Upper Arm Dist	.23
9)	Antecubital V Lat	Thrombosed
10)	Antecubital V Med	Thrombosed
11)	Ceph V Forearm Prox	.14
12)	Ceph V Forearm Dist	.13

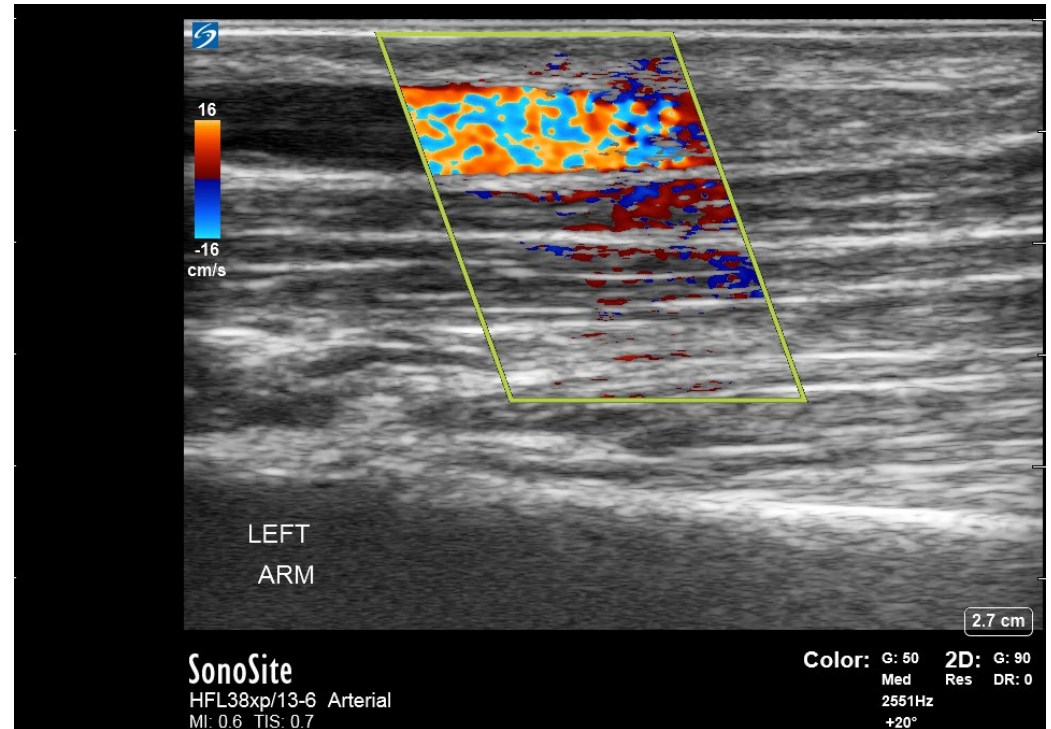


Brachiocephalic fistula – intra op

Axial view pre- AV creation



Sagittal view post-creation



Results

Mapping	Patients 106	Percent
Pre op vein mapping	57	54%
No pre op vein mapping	49	46%

Results Accuracy

Accuracy of Pre op Mapping	Patients 57	Percent
	38	67%
Inaccurate	19	33%

Results

Fistula Creation	Patients 85	Percent
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Primary Fistula	85 (of 106)	83%
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Conversion to graft	24 (of 85)	28%
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Interventions over 11 years

Cohort	Procedures
106 total population of patients studied	329
42	3 (or less)
11	6 (or more)

Conclusion

If you have a good vein:
USE IT!!!



Pre op DUS CONSIDERED "GOLD STANDARD"



INTRA OP ultrasound increased accuracy by 33%
(false negative)



Able to create fistula in 85 patients out of 106.



28% of 85 patients ultimately converted to graft
for multiple reasons (interval varies)



328 access procedures over 14 years reflects
morbidity of dialysis population.

Thank you!!

Oracle at Delphi,
Greece

