

**The Role of Doppler US In Surveillance of Vascular Access in Hemodialysis
Patients And Determination of Proper Timing For Radiological Intervention**

Thesis

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Abstract

Keywords:-CDUS-EDV-PSV- AVM-GFR

All patients were examined post-operative AVF either for maturity or presence of complications. Assessment with arterial diameter, fistula diameter, velocity at the fistula , 2cm proximal , Volume flow rate were measured at anastomosis site and during hemodialysis for shunt complication . Doppler indices (PSV, EDV and RI) were measured at the site of anastomosis, draining veins and afferent arteries. Volume of blood flow was also measured at the site of anastomosis. CDUS is a noninvasive technique that allows the assessment of both anatomy and hemodynamics of an AVF. This technique is free of any known risk, cheap and can be used at the bedside. CDUS outlines the AVF lumen and allows definition of lumen dimensions and detection of luminal encroachment



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List of Abbreviations

AA	Autogenous access.
AV	Arteriovenous
AVF	Arteriovenous fistula
AVG	Arteriovenous graft
AVM	Arteriovenous malformation
BB	Brachio-basilic
BC	Brachio-cephalic
CCDI	Colour coded Doppler imaging
CDU, CDUS	Colour Doppler ultrasound
CFDI	Colour flow Doppler imaging
CFDU,	Colour flow Doppler ultrasound
CFDUS	Colour flow Doppler ultrasound
CHD	Chronic hemodialysis
CRF	Chronic renal failure
CW	Continuous wave
DASS	Dialysis associated steal syndrome.
DAVF	Direct arteriovenous fistula
DHIS	Distal hypoperfusion ischemic syndrome
DSA	Digital subtraction angiography
DRIL	Distal revascularization-internal ligation
DVT	Deep venous thrombosis
EDV	End diastolic velocity.
ESRD	End stage renal disease.
ESRF	End stage renal failure.
GAVF	Graft arteriovenous fistula.
GFR	Glomerular filtration rate.

GSV	Great saphenous vein.
HD	Hemodialysis.
HF	Heart failure.
HIV	Human immunodeficiency syndrome.
HUV	Human umbilical vein.
HUVG	Human umbilical vein graft.
IH	Intima hyperplasia.
IMT	Intima media thickness.
KDOQI	Kidney disease outcome quality initiative.
LVEDV	Left ventricular end diastolic volume.
LVH	Left ventricular hypertrophy.
MAP	Mean arterial pressure.
NKF	National kidney foundation.
NO	Nitric oxide.
PD	Peritoneal dialysis.
PRF	Pulse repetition frequency.
PSV	Peak systolic velocity.
PTA	Percutaneous transluminal angioplasty.
PTFE	Polytetrafluoroethylene.
PW	Pulsed wave.
RC	Radio-cephalic.
RCAVF	Radio-cephalic arteriovenous fistula.
RH	Reactive hyperemia.
RI	Resistivity index.
RRT	Renal replacement therapy.
SD	Standard deviation.
US	Ultrasound.
USA	United States of America.

VA	Vascular access.
VCP	Venous congestion pressure.
VP	Venous pressure.
VSMC	Vascular smooth muscle contraction.

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