AV Fistula Creation


Conclusion: Intraoperative blood flow measurements obtained at the time of autologous AVF construction can identify fistulas that are unlikely to mature; and therefore, that require immediate revision or abandonment which will ultimately expedite the establishment of a useful access in the HD patient.

Correlation of intraoperative blood flow measurement with autogenous arteriovenous fistula outcome. Lin CH et al. Dept of Surgery, Shin Kong Wu Ho-Su Memorial Hospital, College of Medicine, Fu Jen Catholic University., J Vasc Surg. 2008. May 22 (Transonic Reference # 7637AH)

Conclusion: Intraoperative blood flow is a reliable parameter that determines the early failure of an AVF. Careful selection of the vein and the artery may reduce the rate of failure.

Characterizing flow distributions in AV fistulae for haemodialysis access. Sivanesan S, How TV, Bakran A. Nephrol Dial Transplant. 1998 Dec;13(12):3108-10. (Transonic Reference # 9559AH)

Flow in the distal artery was antegrade in 7 of 30 radiocephalic fistulas and retrograde in 23. Flow distribution did not appear to affect fistula maturation or long-term function.

AV Fistula Revision/Flow Reduction


We describe the use of transit time ultrasound of intraoperative flow measurements to help identify the cause of steal syndrome in a predialysis patient with a brachiocephalic fistula, who then was treated successfully by inflow reduction surgery using a bovine ureter graft. We believe that inflow reduction might be superior to DRIL in treating steal syndrome caused by high inflow and that transit time ultrasound might be helpful when treatment is not possible.

Dialysis shunt-associated steal syndrome (DASS) following brachial accesses: the value of fistula banding under blood flow control. Thermann F et al, Department of General, Visceral and Vascular Surgery, University Hospital Halle/Saale, 06097, Halle, Germany, floriana. thermann@medizin.uni-halle.de., Langenbecks Arch Surg 2007 Jun 30

Surgical correction of steal syndrome by banding under blood flow control. Elsharawy MA., Vascular Unit, College of Medicine, King Faisal University, Dammam, Kingdom of Saudi Arabia., Vascular 2006; 14(2): 70-4. (Transonic Reference # 7436AH)

Conclusion: Intraoperative blood flow measurements to help identify the cause of steal syndrome in a predialysis patient with a brachiocephalic fistula, who then was treated successfully by inflow reduction surgery using a bovine ureter graft. We believe that inflow reduction might be superior to DRIL in treating steal syndrome caused by high inflow and that transit time ultrasound might be helpful when treatment is not possible.


CONCLUSIONS: Flow reduction using intraoperative access flow monitoring is an effective and durable technique allowing for the correction of steal syndrome in patients with a high-inflow autogenous access.

Can Intraoperative Measurement of AV Fistula Predict Outcome.

Welander, G, Weiss, L, Lundqvist B., 5th International Congress of the Vascular Access Society. June 11-13, 2007 Nice France, Abstract P-004A (Transonic Reference # 7469AHM). Conclusion: An intraoperative fistula blood flow measurement can be useful especially in E=Rc fistulas where 100 ml/min seems to be a level below which none of the fistulas were well functioning. A fistula with a low blood flow can be an indication to the nephrologist to do an early evaluation, duplex investigation or fistulography.

Prospective evaluation of factors associated with early failure of arteriovenous fistulae in hemodialysis patients. Elsharawy MA., Vascular Unit, College of Medicine, King Faisal University, Dammam, Kingdom of Saudi Arabia., Vascular 2006; 14(2): 70-4. (Transonic Reference # 7436AH)

Recent guidelines have recommended performing native arteriovenous fistulae (AVF) in hemodialysis patients rather than synthetic grafts whenever possible. However, early failure of AVF may reach up to 50%. …Our data showed that intraoperative blood flow is a reliable parameter that determines the early failure of an AVF. Careful selection of the vein and the artery may reduce the rate of failure.