Sharp Needle Recanalization: A Salvage Procedure for Failing Arteriovenous Fistula Due to Tight Uncrossable Venous Stenosis

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A 33-year-old male presented with malfunctioning brachiocephalic arteriovenous fistula (AVF) due to short tight juxta anastomotic stenosis (Fig. 1). Access was gained into the AVF draining vein, and multiple trials to cross the tight stenosis using catheter and wire failed (Fig. 2). Sharp needle recanalization was performed under ultrasound guidance, using 21G needle and wire to cross this tight stenosis (Fig. 3a,b). Wire passed into the AVF

Fig. 1 Ultrasound of arteriovenous fistula (AVF) showing a juxta anastomotic tight stenosis and aneurysmal dilatation.

Fig. 2 Fistulogram showing patent arteriovenous fistula (AVF) with uncrossable tight stenosis.

Fig. 3 (a and b) Ultrasound-guided sharp needle recanalization using 21G needle and wire.
draining vein and snared through the already placed vascular sheath. Balloon angioplasty was performed using 6-mm, high-pressure balloon and inflated for 3 minutes. Postangioplasty venogram showed successful result (►Fig. 4). Patient had follow-up fistulogram and angioplasty every 6 months for 2 years, and fistula remained patent (►Fig. 5).

Sharp needle recanalization is a well-known technique for central venous occlusion. This technique is rarely used in peripheral veins. Jump graft is a salvage technique used to bridge stenotic/thrombotic venous segment of AVF. Jump graft is created surgically or percutaneously by a mean of stent graft for failing AVF. Sharp needle recanalization is a minimally invasive alternative salvage technique to surgical jump graft in tight uncrossable AVF peripheral venous stenosis.

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Conflicts of Interest
None declared.

References