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.
drainage veins are 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