VASCULAR ACCESS

# Management of Clinically Significant AV Fistula Lesions

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Key Messages

- Confirm clinical indication before proceeding with confirmatory imaging

- Intervene only if both clinical indication is present and lesion is >=50% stenosis

- First line of endovascular therapy in most situations is PTA

- Stent graft may be used in certain circumstances (see Table) but must FIRST ensure that it does not cross cannulation zones and would not impede future vascular access, if it is anticipated per ESKD Life-Plan

Flow Diagram 15.a.
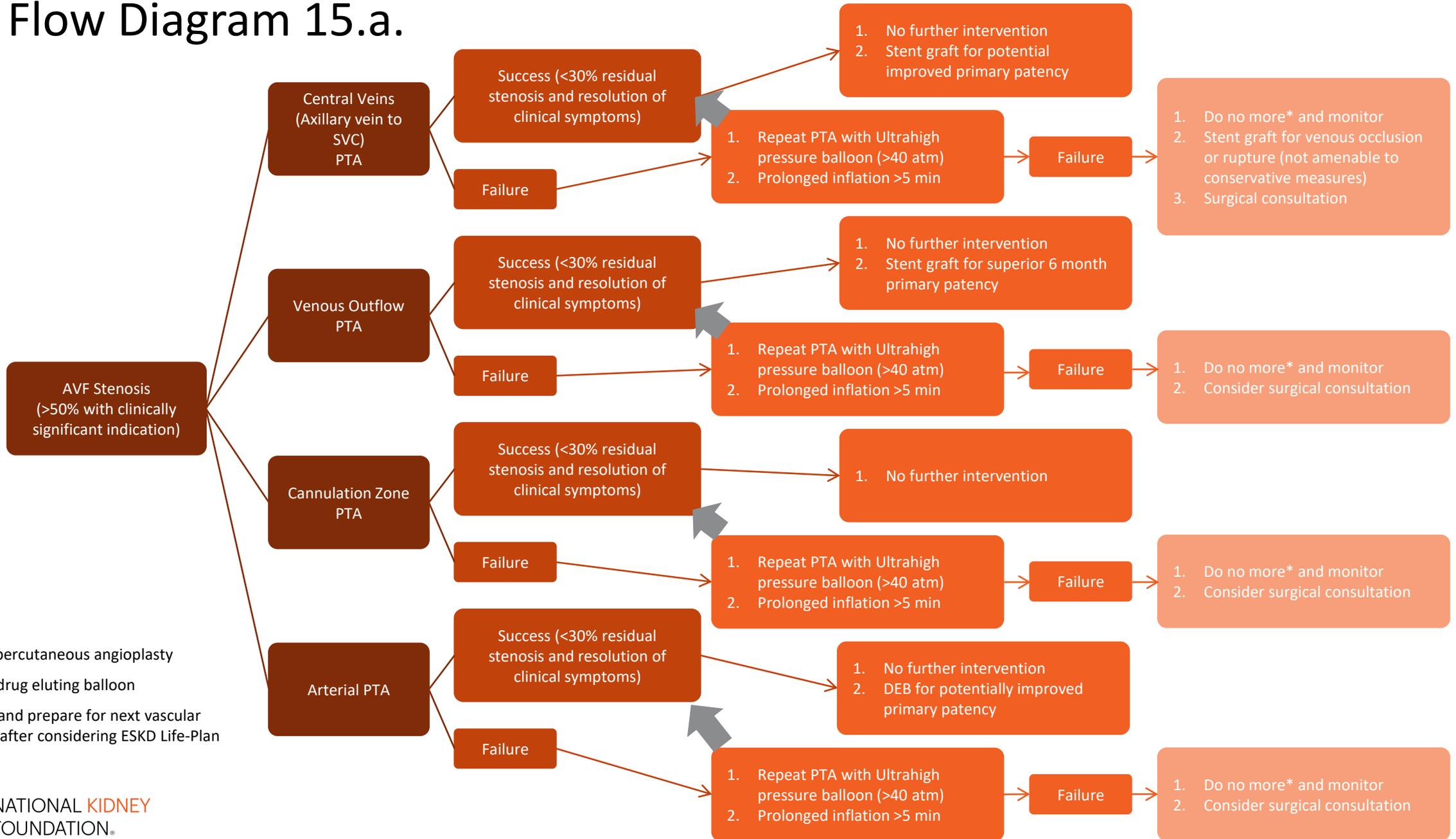
PTA = percutaneous angioplasty

DEB = drug eluting balloon

* Plan and prepare for next vascular access after considering ESKD Life-Plan

AVF Stenosis (>50% with clinically significant indication)

Central Veins (Axillary vein to SVC) PTA
- Success (<30% residual stenosis and resolution of clinical symptoms)
  1. No further intervention
  2. Stent graft for potential improved primary patency
- Failure
  1. Repeat PTA with Ultrahigh pressure balloon (>40 atm)
  2. Prolonged inflation >5 min
  - Failure
    1. Do no more* and monitor
    2. Stent graft for venous occlusion or rupture (not amenable to conservative measures)
    3. Surgical consultation

Venous Outflow PTA
- Success (<30% residual stenosis and resolution of clinical symptoms)
  1. No further intervention
  2. Stent graft for superior 6 month primary patency
- Failure
  1. Repeat PTA with Ultrahigh pressure balloon (>40 atm)
  2. Prolonged inflation >5 min
  - Failure
    1. Do no more* and monitor
    2. Consider surgical consultation

Cannulation Zone PTA
- Success (<30% residual stenosis and resolution of clinical symptoms)
  1. No further intervention
- Failure
  1. Repeat PTA with Ultrahigh pressure balloon (>40 atm)
  2. Prolonged inflation >5 min
  - Failure
    1. Do no more* and monitor
    2. Consider surgical consultation

Arterial PTA
- Success (<30% residual stenosis and resolution of clinical symptoms)
  1. No further intervention
  2. DEB for potentially improved primary patency
- Failure
  1. Repeat PTA with Ultrahigh pressure balloon (>40 atm)
  2. Prolonged inflation >5 min
  - Failure
    1. Do no more* and monitor
    2. Consider surgical consultation

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Indication for use of stent grafts in AV Fistulas*

Recurrent clinically significant stenosis in AVF that is not within the cannulation zone or that does not extend into the anastomotic artery
Central venous stenosis/occlusion
In-stent re-stenosis in AVF and AVG
Treatment of ruptured venous stenotic segment of AVF
Treatment of highly select AVF aneurysm/pseudoaneurysm

* Quality evidence for stent graft superiority over plain old balloon angioplasty (POBA) for 6 month primary patency only

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Post Guidelines Considerations

- There have been two recent published randomized prospective studies for primary use of drug eluting balloons (DEB) within AVFs that have demonstrated superior 6 month and 12 month primary patency. These studies were not published at the time of evidence review team (ERT) assessment. Primary use of DEBs may be considered after successful PTA.

- A soon to be published randomized prospective study for use of stent grafts in AVFs demonstrated superior 6 month primary patency over PTA. The Evidence Review Team (ERT) assessment was conducted before publication of this study.

- A randomized study also found that cutting balloon PTA following technically unsuccessful PTA resulted in improved target lesion patency at six months. This study was not captured by the ERT.