Monitoring, Surveillance, and the Failing AVF: Change Concept 9

AVF Maturation Process - Fistula maturation is defined as the process by which a fistula becomes adequately dilated and thick-walled to make it suitable for cannulation.

- *Usually takes 8 to 12 weeks for a fistula to mature but can take longer*
- *Should be able to feel a strong thrill at the arterial anastomosis*
- *Listen for a continuous low–pitched bruit*
- *Vessel diameter must be 4-6 mm, veins should be firm to touch and no prominent collateral veins*
- *Most failing AVF's can be identified on physical exam by 4 weeks*
- *Many early AVF failures can be salvaged if identified before thrombosis occurs*
- *If the AVF is patent but you are unable to cannulate the AVF or adequately dialyze the patient by 12 weeks, refer for exam/fistulogram to determine what intervention is needed*

Each treatment should include a physical assessment of the new AVF:

- *Look at the access and compare the access extremity to the other extremity*
- *Listen for the bruit*
- *Feel for the thrill*

Abnormal Changes in the Access Extremity:

- *Edema of the access extremity*
- *Cold to touch with pain or numbness (possible Steal Syndrome)*
- *Warm to touch (possible infection)*
- *Bruising*
- *Loss of continuous bruit/ or change in the bruit*
- *Change in the quality of the "Thrill" or complete loss of thrill*

Action: Refer for exam to determine intervention needed

Cannulation of New AVF

- *Need MD Order to cannulate a new access*
- *Should be performed by the "best" cannulator*
- *Cannulate the arterial site first if patient has a catheter*
- *Follow unit-specific protocols for needle size and blood flow rate*
- *Monitor pre-pump arterial pressure which is valuable in detecting flow problems*

Pre-pump Arterial Pressure (AP) indicates the ease or difficulty with which the blood pump is able to draw blood from the fistula (inflow).

- *Pre-pump AP should not be more negative than – 250 mm/Hg*
- *Excessively negative pre-pump AP may be the earliest indication of AVF dysfunction*
- *AP more negative than –250 mm/Hg causes a drop in the delivered blood flow causing inadequate dialysis and may also cause hemolysis*

Action: Check the arterial blood line for kinks

- *Match the needle gauge and prescribed BFR*
- *Follow your unit specific policy*

***** If you would like more information on this topic, visit our web site:www.fistulafirst.org***

References

Cannulation of the Arteriovenous Fistula. [Online] (2008) [Accessed 25th April 2008]. Available from World Wide Web: <http:www.fistulafirst.org/pdfs/cannulation_of_the_AVF_Ch2.ppt>

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