A-V Access (Arterio-Venous Access) for Dialysis, Care After

Dialysis is a treatment which gets rid of toxic wastes from the body. It is used when the kidneys fail and cannot get rid of wastes. Dialysis is a cleansing of the blood. So it is important to maintain a good access to your blood. This can be done in a number of different ways as described below.

DOUBLE LUMEN CATHETER

The double lumen *catheter* is a long, narrow, hollow tube. It may either be temporary or long term. Those used long term are generally:

- Cuffed
- Tunneled under the skin.
- Surgically placed.

They are generally placed when dialysis is needed in an emergency. This may be when permanent A-V access fails, and the patient is too unstable to have it revised until after improvement.

Catheters may develop serious infections. Or they may develop a clot and fail. They can cause clots in the vein they are placed in. They are generally placed either into the:

- Large vein under your collarbone (*subclavian vein*)
- Large vein in your neck (*jugular vein*).
- Occasionally, they are temporarily placed in the large vein in your groin (*femoral vein*).

The subclavian vein catheters are most likely associated with venous clotting.
When the *subclavian vein* clots, it makes it very difficult for the patient to sustain an A-V graft or fistula. So, these catheters should be avoided whenever possible in lieu of placing a more permanent access. Ideally, the patient is referred early to the surgeon for placement of an A-V fistula. It is critical that veins in patients at high risk to develop kidney (*renal*) failure are preserved. This will maximize the chance for a functioning A-V fistula.

A-V GRAFTS

The A-V graft uses synthetic material. This could be a type of Teflon which connects an artery and vein in the arm. It is generally placed a few weeks prior to use. It takes around two weeks to mature. Its major complications are:

- It quits working properly (*failure*).
- The diameter of the tube gets smaller (*stenosis*).
- Infection.

Stenosis at the outflow tract may first present as increased venous pressure. If unopened by angioplasty, this stenosis progresses until the vessel is completely blocked. A-V graft survival is around 1.5 years. This is considerably shorter than A-V fistulae.

A-V FISTULA

The A-V fistula used for dialysis is a surgical connection between an artery and vein. It takes around 12 weeks to mature. So it must be placed several months before dialysis is anticipated. The infection and narrowing (*stenosis*) rate is less than the other methods. The A-V fistula can last for years. Previous cannulization of a vein may lead to phlebitis and permanent damage to the vessel wall. This might make it impossible to keep an A-V fistula. Patients expected to someday start hemodialysis should receive education regarding vein preservation. They should have a fistula placed when the glomerular filtration rate is less than 25 cc per minute.

Wear a medic alert bracelet so health care workers will know you are a kidney patient. They can then care for your veins appropriately.

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