Quick Reference Guide for Aortic Valvuloplasty

Defn: Aortic valvuloplasty is repair of stenotic aortic valve using a balloon catheter inside the valve. The balloon is placed into the aortic valve that has become stiff from calcium buildup. The balloon is then inflated in an effort to increase the opening size of the valve and improving blood flow. (From Wikipedia, the free encyclopedia) Indications: Patients with symptomatic AS

Patient Preparation:

- General Anesthesia pre-booked to monitor patient and administer medications as needed
- Possible CCU post procedure-**CHECK TO SEE IF BED IN AM 1ST**
- **Biphasic Defibrillator pads should applied to patient for PRN use**
- 2 femoral artery access, large bore IV
- GROUP & RESERVE minimum-CALL #3440 BLOODBANK
- Foley catheter (as needed)

Equipment required

- Left heart pack, Cathlab Bundle, Bonnets x 3
- Temporary pacemaker capable of overdrive pacing
- Temporary wire with sleeve
- Sterile pacemaker cables
- 2nd Transducer right heart
- .35-260cm exchange wire (congenital Cart)
- 0.35 straight wire
- 60cc syringe, Long Angio tubing ON Congenital cart
- Thermo dilution Outputs probable(will need cables and monitor capable of thermo)
- 2 extra Kelly clamps for Perclose
- O2 saturations syringes (at least 3 for PA, FA, SVC saturations)
- Z-med Valvuloplasty balloon of MD choice
- Catheter to cross AO valve AL1/MP/Marker Pigtail MD choice
- Sheaths 2 7fr sheaths, 12fr or 14fr, long 30-345cm 14fr LFA sheath
- Perclose x 2 or 3
- Fill Medrad with Contrast for multiple Angios

Possible Medications

- General anesthesia-prebooked with OR secretary
- Local Zylocaine 2% & Bupivacaine .5%
- **Versed and Fentanyl** Sedation as ordered (generally 1-2mg and 25-50mcg)
- Ancef or Vancomycin, IF Radial cannulation Verapamil 1mg IA with Nitroglycerine 100mcg IA **or** verapamil 2.5mg IA alone will be given through sheath (MD dependent)
- **Heparin bolus** dose = **50u to 70u per kilogram.** ie.70kg person =3500u bolus
- Mix up **Phenylephrine Infusion ask** Dr Horlick (??Possibly 10mg in 100ml NS bag)

Procedure in Brief

- **Cannulations**

- RFA x 1= 7fr
- LFA x 1= 12fr COOK --30cm sheath or 14fr sheath (7 Fr dilator may be used to dilate vessel and Perclose sutures are pre-set x2)
- RFV x 1= 7fr
- **4Fr Micro Puncture**

Located metal cart doorway to clean utility-across from blanket warmer

- Swan-Ganz thermo dilution catheter is introduced into venous sheath and serially advanced through the right heart chambers to obtain right heart pressures, O2 saturations and Fick cardiac output calculated.
- 5 Fr Temporary pacemaker inserted via RFV sheath to RV, TPM tested for rate and output, and pacemaker settings are set
  - **Rapid Atrial Pacing Mode test @ 180 bpm <u>Pacer resets itself Q5MIN-Watch!!</u>**
- Marker pigtail positioned in AO via 7Fr RFA sheath an AO Root angiograms are performed
- AL1 (or catheter of MD's choice) is advanced to LV via 12fr-30cm or 14fr -30cm LFA sheath
- Straight wire used to cross AO valve via AL1
- Simultaneous pressures LV/AO to obtain gradient
- AL1 catheter is removed and wire remains insitu
- Z med valvuloplasty balloon is chosen and mounted onto delivery sheath by MD
- Change to exchange wire to advance Valvuloplasty balloon
- Balloon is advanced over the wire and across AO valve
- Repeat inflations done with "rapid atrial pacing "in progress
- Balloon removed.
- AO angiograms are performed (may use pigtail). MD may want to upsize valvuloplasty balloon and repeat inflations.
- Change condition to Post-valvuloplasty LV and AO pressures are re-measured simultaneously. Pullback done across AO valve and gradient measured if present.
- TPM removed. Catheters and wire removed.
- 12/14 Fr sheath removed and Perclose sutures are tied.