CATHETERIZATION PROTOCOL
Prepared by Alejandro Floh (05/12/12)
Edited by K-J Lee

Cath Procedure Diagnosis: Endomyocardial biopsy (RV)

Hospitalization Requirement: As clinically indicated

Blood on hold: No

Pre-Catheterization Preparation: Review cath requisition form to ascertain if it will be limited to endomyocardial biopsies or if additional procedures needed e.g. coronary angiography, electrophysiologic testing, etc.

Review old caths to see how many biopsies have been done, access issues, sedation issues, complications

Labs: ensure normal platelets, coagulation parameters, electrolytes

Consent: Ensure to discuss issues specific to biopsy – i.e. perforation (up to 4-5% in arrhythmia, cardiomyopathy/myocarditis biopsies), tricuspid regurgitation/valve damage, arrhythmia. Reported rates usually <1% (range in literature from 0.1-12%).

Cardiac Catheterization:

Access: Internal jugular veins, femoral veins usually
Also: subclavian veins, transhepatic, external jugular veins, brachial veins

Sedation: Varies according to age and tolerance.
Infants/young children generally are performed under GA or deep conscious sedation. Older children/teenagers may require only light sedation (midazolam +/- fentanyl) or only local analgesia. May use EMLA patch prior to arrival to cath lab. If patient remains cognitively aware during procedure, remember to describe what you are doing to them during the procedure to help alleviate anxiety.

Generally done with single plane fluoroscopy.

1. After cannulation of vein, insert wire (0.021”) and place distal wire tip into distal PA.
2. Insert Daig 6 Fr dilator/sheath to dilate tract (transplant patients have a lot of scar tissue).
3. Pre-shape long sheath (Cook-5.5 F, 36 cm length for neck vein or 6F-100cm length for femoral vein) with heater with distal loop pointing posteriorly towards IVS.
4. Remove Daig dilator/sheath and insert pre-shaped biopsy sheath with tip in RV directed toward septal wall. Remove dilator and wire. Sheath tip should be in RV body.
5. Insert Bioptome (Cordis - 5.5F, 50 & 104cm, SparrowHawk - 6F – 50cm) into sheath opening bioptome as it approaches distal tip. Optimum sampling site: inferior IVS. Once through sheath push until feeling mild resistance, closed bioptome, and pull swiftly backwards. Remove bioptome while flushing sheath (remember to turn off flush once bioptome removed to avoid fluid overloading patient). This prevents air from being sucked into the sheath while the bioptome is being removed.

Five biopsies via 5F system.

For infants < 5kg:
May use 4F long sheath (Cook – 4F, 27cm long) with 0.018” wire. Usually do not need to pre-dilate as the dilator/sheath track very easily.
Use a 3F bioptome (Cook 3F- 60 or 120cm length) system.
Biopsy specimens – 7-9 samples.

Post-catheterizations:
1. Fill out basic cath picture
2. Review patient prior to discharge – no signs of pericardial effusion, pneumo/hemothorax.

References:

