Septal Myectomy Intraoperatve TEE Protocol (DRAFT)

Notes:

- Septal myectomy indication: symptomatic HCM patient with resting or latent LVOT obstruction (Valsalva or exercise induced) > 50 mmHg. We are not yet offering an apical/midventricular myectomy in BC yet but there remains the possibility of this in the future (Steve Kim).
- In HCM patients with resting LVOT obstruction on TTE (peak LVOT gradient > 30 mmHg), the LVOT gradients are often lower with general anesthesia
- LVOT gradients are very labile in some patients
- Patients should be off beta-blocker/ccb/disopyramide for 24-48 hours prior to myectomy

Pre-myectomy TEE

- Identify magnitude of LVOT obstruction secondary to SAM
  - In some cases it is possible to obtain Doppler alignment with LVOT in midesophageal view otherwise can do transgastric view
- Identify ventricular septal thickness
- Evaluate mitral valve leaflets (rule out primary mitral valve disease) and mitral valve apparatus (abnormal papillary muscles and chordae in midesophageal and transgastric views)
- Evaluate mitral regurgitation (typical jet of SAM related MR is posterolateral but should recognize that SAM related MR can also result in nonposterior jets that do not require mitral valve intervention and will resolve with myectomy only)

Post-myectomy TEE

- Need to obtain LVOT gradients <30 mmHg at rest AND < 30 mmHg with provocation (PVC and isuprel)
  - It is vital to ensure there is no risk of postoperative latent LVOT obstruction which can lead to symptom recurrence requiring repeat septal reduction therapy. Hence, employing provocation (post PVC and isuprel) ensures high sensitivity (to exclude risk of residual LVOT obstruction)
  - If LVOT gradients >30 mmHg at rest or with provocation, it should prompt discussion as to whether to go back on CPB for additional myectomy

- Provocation
  - Post PVC
  - Isoproterenol (start at 5 mcg/kg/min – 10 mcg/kg/min) – can use less as per your discretion
    - Ideal to achieve HR at least 85% THR
    - Some HCM centers start at isoprel 10 mcg/kg/min or use dobutamine 20 mcg/kg/min as an alternative

- Measurement of LVOT gradients by needle +/- echo (ideal)
  - Anesthesiologist to take picture of invasive hemodynamic tracing if possible (rest, post PVC, peak isoproterenol) and either send to myself or Steve Kim
- Rule out post-myectomy VSD, AR, MR