**Transjugular Intrahepatic Portosystemic Shunt (TIPS)**

Indications for TIPS are recurrent esophageal variceal bleeding, bridge to liver transplantation, large ascites or hydrothorax that doesn’t respond to medical management. At a high-level, procedure sequence begins with cannulation of the right or left jugular vein then the hepatic vein is canalized followed by wedging a catheter. Hepatic venogram is performed in order to guide the interventionalist for the liver puncture. The portal system is accessed then tract dilation followed by stent placement to maintain shunt patency. A decrease in the portosystemic gradient to less than 12 mm Hg is considered a success.

**I. Surgical Considerations**
- Potential for significant fluid shifts
- The newly created shunt may cause a rapid right-sided heart decompensation
- Although this procedure has been performed under sedation and MAC; general anesthetic is the most common choice.

**II. Pre-operative Considerations**
- The patient population has usually demonstrated clinical deterioration and presents with numerous comorbidities
- Recent echo?
  - R/O portopulmonary HTN (absolute CI to a TIPS). Incidence rate = 16% in cirrhotic patients
- Standard preoperative evaluation and comorbidities
  - Baseline CBC, Coags, BMP, T&S and HcG in female patients

**III. Case Setup**
- Airway
  - Extension circuit
  - Second gas sampling line with double connector or 1 3-WAY STOPCOCK
- Medications
  - Induction medications
  - Emergency medications
  - Phenylephrine infusion (obtain from pharmacy)
  - Antibiotics:
    - Usually Rocephin (ceftriaxone), but confirm with interventionalist
- A-line
- PIVs x2
  - Consider utilizing multiple extensions e.g., 24-inch purple clamp tubing
- Infusion pumps
- Bair hugger
  - Underbody blanket is preferred
- Fluid warmer

**IV. Monitoring**
- Standard monitoring
- A-line

**V. Intraoperative considerations**
- Radiation Safety
  - IR has rolling lead shields for our use. Important points to remember--distance is your friend (six feet of air equals nine inches of concrete or 2.5mm of lead), location of the radiation source (for
the lateral) is typically opposite the interventionalist so minimize the amount of time spent on that side of the table (radiation can be 4x greater than anywhere else in the room).

- General Anesthesia
  - Induction
    - Standard induction
    - GA/ETT
    - PIVs x2
    - Aline
    - Supine
  - Maintenance
    - Stay vigilant regarding the volume of fluid being drained; often the containers will not be visible to the anesthesia team
  - Emergence
    - Plan for extubation at the end of the case

VI. Postoperative Considerations
- Anesthesia transport to PACU
  - Team handover (surgery, interventionalist and PACU RN or ICU team) is performed at the bedside

Revision History:
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